Survey on recruitment and employment in Quebec (EREQ)

In collaboration with the
Institut de la statistique du Québec

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CETECH
Centre d'étude sur l'emploi et la technologie

Highlights - EREQ 2005

Although nearly two thirds of respondents (66.3%) were establishments with 5 to 19 employees, they made up only a quarter of the labour force (26.1%). As for large establishments (100 or more employees), they represented only a tiny part of all establishments (5%), yet they employed more than a third of the workers in the survey (36.1%).

Some industries have a personnel turnover higher than what is seen for the labour market as a whole. In this regard, accommodation and food services (43.9%); management, administrative, and support services (41.7%); and construction (41.6%) recorded the highest turnover.

As for occupations, turnover is inversely proportional to workers' skill levels. Workers holding highly skilled jobs posted a turnover of close to 15%, while those relatively less skilled recorded a rate at least two times higher.

Job vacancies numbered 72,000 in 2005, up 0.7% from 2004. High technology manufacturing (-8.4%) and construction (-7.4%) were the only sectors to have shown a drop in total job vacancies in 2005.

There were slightly more than 19,000 job vacancies of four or more months in 2005, about 6,000 jobs more than in 2004. Expressed as a percentage of employment, these made up 1% of all employment in our survey, up 0.3 percentage points from 2004.

Small establishments are more likely to have recruitment difficulties. While the long-term job vacancy rate was 1% for survey respondents as a whole, the rate was 1.5% for small establishments (5–19 employees) compared with only 0.6% for employers with 100 or more employees.

Highly skilled employment accounted for the increase in long-term vacancies. In 2005, these jobs made up one out of four long-term job vacancies (25.2%). For this category of employment, there were twice as many vacant jobs of four or more months (7,600) in 2005 as the previous year.

"A lack of applicants with the required experience" remains the reason most mentioned by respondents to explain the existence of job vacancies of four or more months, with 40.3% of respondents giving this reason.

Highlights continued on page 3

Emploi Québec

Survey on recruitment and employment in Quebec, Fall 2006

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Emploi-Québec

Coordination: Frédéric Savard

Analysis and writing: Frédéric Savard, economist

EREQ team: Guylaine Baril, Malika Hamzaoui and Frédéric Savard

In collaboration with: Institut de la statistique du Québec

Technical support and layout: Stéphane Leroux

Secretariat: Francine Lessard

Design: Stéphane Leroux

Subscription and change of address:
CETECH
276, Saint-Jacques, 6th Floor
Montréal (Québec) H2Y 1N3

Phone : (514) 864-8234
Fax : (514) 864-7870
E-mail: cetech@mess.gouv.qc.ca

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Highlights (continued)

Using overtime was by far the most popular method to make up for long-term job vacancies. One out of two establishments (49.8%) reported having used this method in 2005.

There is a high correlation between the presence or absence of training activities for personnel and the concentration of highly skilled jobs in an industry. Establishments in high technology manufacturing and services, as well as in professional services and in finance, insurance, and real estate ranked first, in that more than 70% of them confirmed having offered training activities in 2005, compared with 54.9% for respondents as a whole.

Training personnel (67.6%), motivating personnel (66.3%), and improving the working climate (60.7%) ranked first in measures implemented by respondents with regard to human resources management.

However, questions related to labour succession (47%), much like those concerned with hiring and recruitment (45.4%) of new employees, were among the human resources management measures for which respondents felt major improvements could be made.

Introduction

The *Enquête sur l'emploi et le recrutement au Québec* (EREQ), the survey of employment and recruitment in Quebec, focuses on comparing and tracking employment and labour demand in high technology and other sectors on the one hand; and, in highly skilled occupations and less-skilled occupations on the other hand. It was designed by the Centre d'étude sur l'emploi et la technologie au Québec (CETECH) and conducted on behalf of CETECH by the Institut de la statistique du Québec, which was responsible for the design of the sampling plan and for data collection and processing.

The survey involves a sample of more than 6,000 establishments drawn from the database of the Statistics Canada Business Register and covers all the sectors of the Quebec economy, with the exception of primary industry and the public sector. The sample is stratified so as to produce valuable data for high technology manufacturing, high technology services, other manufacturing sectors, other service sectors, and the construction industry.

This latest edition of the survey has enabled us to make major changes in the stratification of the sectors covered. From now on, the survey can provide detailed information on the main industrial components that make up the services entity, which were grouped together as "other services." In addition, the manufacturing sector has been reorganized. This sector was broken down into four main categories: labour-intensive manufacturing, primary product manufacturing, secondary product manufacturing, and capital-intensive manufacturing. Labour-intensive manufacturing includes the food and beverage industry, textile and clothing industries, and the furniture industry. As for the primary product manufacturing establishments, these include the wood, paper, petroleum, and coal industries, and non-metallic mineral products as well as primary metal manufacturing. With regard to the manufacturing establishments with activities in chemical products, rubber, and plastic—much like those related to metallic products—these belong to secondary product manufacturing. Finally, capital-intensive manufacturing industries include printing, machine manufacturing, and electrical, electronic and computer products as well as transportation equipment. This new sectoral disaggregation will allow us in future to better track the various topics addressed by the survey and thereby improve our understanding of the labour market.

With regard to the high technology sectors, it should be mentioned that they were selected on the basis of criteria inspired by the OECD. High technology manufacturing includes the computer and electronic products industry, the pharmaceutical products industry, and the aerospace industry. As for high technology services, they cover the following activities: architecture, engineering and related services; computer system and software design; and scientific research and development services. In addition, professional services have also been chosen because of their high weighting in highly skilled workers.

As for the occupations, they are classified in three main categories. The first category is named for highly skilled workers who occupy jobs normally requiring a postsecondary education, and includes management, professionals, and college-level technicians. Within this category, specific data are collected for occupations in the natural and applied sciences (computer science, engineering, mathematics, and other sciences), because of the strategic role they play in high technology. The second category groups together the technical jobs that usually require vocational education at the secondary level. It has been disaggregated into three sub-groups—trades (electricians, plumbers, mechanics, etc.), sales or production supervision personnel, and secretarial personnel. The third main category includes workers at the intermediate and elementary skill levels (according to the terms of the National Occupational Classification) who occupy jobs requiring secondary school education or less. This broad category has been divided into three sub-groups: namely, general office personnel, general sales and service personnel, and workers in production or related areas.

In addition to changes made in the sectors, over the last year we have also added a new topic that will be repeated in the questionnaire from now on. Added to the existing topics (employment, hiring and departures of employees, job vacancies) is a question related to the training of employed workers. Given the strategic importance of this aspect, the

availability of such information will certainly improve our understanding of the labour market in Quebec, as well as market-related issues.

The information given here refers to basic indicators only. The reader is asked to consult Appendices I and II for further details regarding the survey's definitions and methodology.

Finally, we should comment on the quality of our data. As with any survey based on a sampling of the total population, the results are subject to a coefficient of variation that expresses—as a percentage estimate—the upper and lower limits between which are located the actual results for the population. Of course, the smaller the coefficient of variation, the more accurate the results. In the tables, where the coefficient of variation exceeds 25% the datum is marked with an asterisk indicating that the reader should be prudent in interpreting results that are not sufficiently accurate. Finally, for those who are interested, Appendix I at the end of this document gives further information on the methodology of this survey.

I. The Employment Situation

Breakdown of employment

The establishments surveyed—establishments in the private sector with five employees or more, with the exception of primary industry and the public sector—numbered more than 2 million employees in 2005.

The breakdown of employment by establishment size was a new category in 2005. In this regard, small establishments (5–19 employees) made up about a quarter of the workforce (26.1%) in our survey, but they represented two out of three establishments (66.3%). As for medium-sized establishments, numbering from 20 to 99 workers, they employed more than a third of the workforce (37.8%) while making up somewhat more than a quarter of all establishments. Finally, even though the large establishments (100 or more employees) were only a tiny part of all establishments (5%), they totalled more than a third of all workers (36.1%) in Quebec.

A labour market in motion

The labour market as seen in any given establishment is a scene of incessant movement of employee hiring and departures. In fact, at any time of the year, in various fields, many people are being hired while many others are losing or quitting their jobs, regardless of their skill level. This ongoing phenomenon is the result of expansion and job creation in some establishments and of contraction and job losses in others. In 2005, these movements (all employee hiring and departures combined) were estimated at more than 1.2 million in Quebec.

Information on employee hiring and departures enables us to evaluate the intensity of movement in the labour market, or its dynamism. One way of measuring this aspect is to calculate labour turnover. To do this, we add worker hirings and departures, and divide by employment in the sector being studied. The result is then divided by two to get the average labour turnover rate.[1] On this basis, the results of the survey show that about 30% of workers during the year either started a new job or, for various reasons, left their job.

[1] Another way to do it, which comes to the same thing, is to add the hiring and of job termination rates and divide by two, to get an average.

Figure 1

Breakdown of employment and of the number of establishments by size, 2005

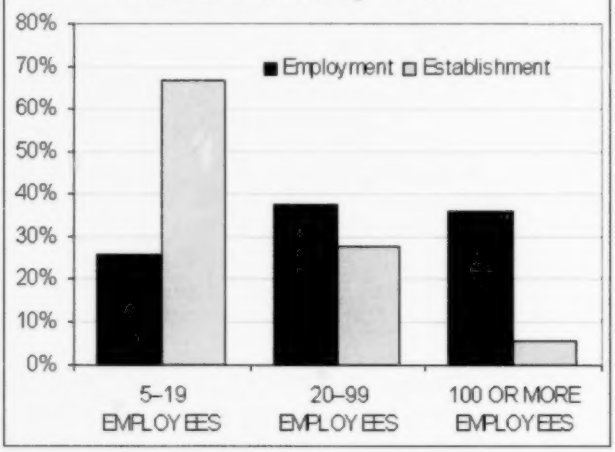


Table 1

Labour turnover in selected industries, 2005

HIGH TECHNOLOGY MANUFACTURING	**14.1 %**
ELECTRONIC AND COMPUTER PRODUCTS	18.7 %
PHARMACEUTICAL PRODUCTS	14.6 %
AEROSPACE PRODUCTS	10.9 %
HIGH TECHNOLOGY SERVICES	**21.1 %**
ARCHITECTURE, ENGINEERING & RELATED SVCS	22.5 %
COMPUTER SYSTEM DESIGN	21.7 %
SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES	17.5 %
PROFESSIONAL SERVICES	**29.6 %**
CONSTRUCTION	**41.6 %**
MANUFACTURING	**20.4 %**
LABOUR-INTENSIVE MANUFACTURING	18.4 %
PRIMARY MANUFACTURING	23.3 %
SECONDARY MANUFACTURING	23.5 %
CAPITAL-INTENSIVE MANUFACTURING	17.9 %
SERVICES	**33.1 %**
TRADE	34.9 %
TRANSPORTATION AND WAREHOUSING	23.9 %
FINANCE, INSURANCE, REAL ESTATE	14.7 %
MANAGEMENT, ADMINISTRATIVE, AND SUPPORT	41.7 %
INFORMATION, CULTURE AND RECREATION	37.8 %
ACCOMMODATION AND FOOD SERVICES	43.9 %
OTHER SERVICES	25.7 %
TOTAL	**30.4 %**

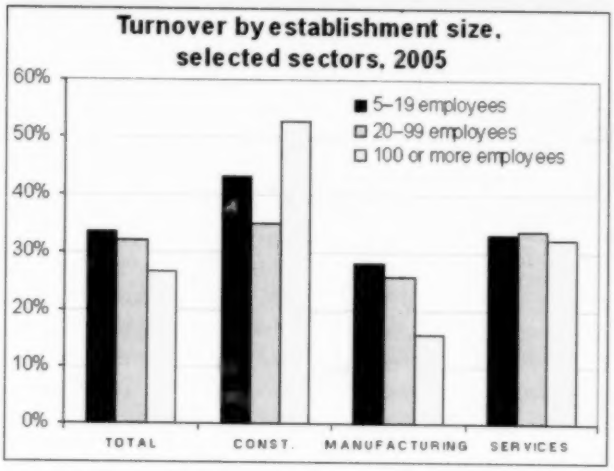
Turnover that varies widely from one industry to another...

Labour movement varies greatly from one industry to another. Thus, as shown in Table 1, some sectors have to deal with a personnel turnover that is higher than what is seen in the labour market as a whole. In this regard, accommodation and food services (43.9%), management, administrative, and support services (41.7%), and construction (41.6%) are the leaders in this aspect. In contrast, high technology industries (18.1%), general manufacturing (20.4%) as well as finance, insurance, and real estate (14.7%) show a turnover that is relatively lower compared with the labour market as a whole.

Small establishments (5–19 employees), in proportion to the number of workers employed in them, account for the largest volume of both hiring and departures. As one can see in Figure 2, labour turnover decreases as establishment size increases. This observation is all the more true when large establishments (100 or more employees) are compared with those having 5 to 19 employees. Worker retention is thus more difficult for small establishments than for large ones. This is not surprising given that workers employed in large businesses generally enjoy greater social benefits. Large establishments thus have a greater power to attract and to retain workers. In addition, large establishments, as a general rule, are better at dealing with the ups and downs of the economy.

The portrait related to size, however, varies from one sector to another. In fact, in the construction sector, the large establishments have the highest turnover for the sector (52.7%). However, in manufacturing, the relationship between turnover and establishment size is quite high in that small establishments (5–19 employees) have a turnover (28.2%) that is almost twice as high as establishments with 100 or more employees (15.5%). Finally, this relationship is not borne out in the service sector, where the turnover rate is more or less the same regardless of establishment size.

Figure 2



... and from one occupation to another

A correlation between skill level and turnover is also found when one looks at results by occupation. Indeed, turnover is inversely proportional to the workers' skill levels. Thus, highly skilled workers have a turnover rate of almost 15%, while the relatively less-skilled record a rate that is at least twice as high. Among intermediate and elementary workers, it is the sales and service personnel (42.9%) who have the highest turnover, as do trades personnel (35.7%) in the case of below-college-level technicians.

Table 2

Labour turnover for selected occupations, 2005

HIGHLY SKILLED WORKERS	**14.6 %**
MANAGEMENT	7.8 %
PROFESSIONALS	17.9 %
COLLEGE-LEVEL TECHNICIANS	19.2 %
BELOW-COLLEGE-LEVEL TECHNICIANS	**29.3 %**
SECRETARIES	16.4 %
TRADES	35.7 %
SUPERVISORS	15.6 %
INTERMEDIATE AND ELEMENTARY WORKERS	**36.6 %**
GENERAL OFFICE PERSONNEL	21.5 %
GENERAL SALES AND SERVICE PERSONNEL	42.9 %
PRODUCTION WORKERS	33.6 %
TOTAL	**30.4 %**

II. The Job Vacancy Situation

More establishments reported job vacancies in 2005 compared with the preceding year...

The proportion of establishments reporting job vacancies rose in 2005 with regard to both total vacancies and vacancies of four or more months. The percentage of establishments reporting job vacancies was 27.8% in 2005, an increase of 3.2 percentage points over 2004. As for job vacancies of four or more months, their proportion was 9.7%, up 2.2 percentage points from 2004. Of all respondents, the manufacturing establishments reported the largest number of long-term vacancies in 2005 (12.3%). A fact to note is that small establishments (5–19 employees) posted a proportion of job vacancies of four or more months that was lower than the average for all sectors of activity.

Table 3

Percentage of establishments reporting long-term vacancies by sector and by establishment size, 2005

	5–19 empl.	20–99 empl.	100 or more empl.	All sizes
CONSTRUCTION	5.1	9.4	6.9	6.1
MANUF.	8.0	14.6	20.0	12.3
SERVICES	8.7	10.9	18.1	9.7
TOTAL	8.2	11.5	18.3	9.7

... which translates into a rise in the number of job vacancies reported by respondents

Total vacancies numbered slightly more than 72,000 in 2005, up 0.7% over the preceding year. High technology manufacturing (-8.4%) and construction (-7.4%) were the only sectors to have shown a drop in total vacancies in 2005.

Expressed as a proportion of employment, total vacancies represented 3.5% of employment, which constitutes a small decline compared with 2004. It should also be noted that the highest total vacancy rates (total number of vacancies in proportion to employment) were found in the service industries with a high concentration of highly skilled workers (high technology services and professional services) as well as in sectors such as management, administrative, and support services (7.8%); information, culture and recreation services (6%); and accommodation and food services (4.9%).

Also apparent is an increase in vacancies of four or more months, which in 2005 made up a little more than a quarter of total vacancies (26.9%) reported by respondents. There were slightly more than 19,000 long-term job vacancies in 2005, about 6,000 jobs more than in 2004. Expressed as a percentage of employment, these made up 1% of all employment in our survey, compared with 0.7% a year earlier.

The significant increase in the number of job vacancies lasting four or more months is to a large extent attributable to the service sector. In 2005, while this sector had slightly more than three out of four of the job vacancies (77.4%), it accounted for four out of every five new long-term job vacancies (82.1%). Management, administrative, and support services (2.8%), information, culture and recreation (2.1%) as well as professional services (1.5%) all posted long-term vacancy rates that were higher than the average for the sector, which was 1.1% in 2005.

With a 0.8% rate for vacancies of four or more months, the high technology sector as a whole had a ratio lower than the Quebec average. However, a detailed examination of the results shows that the picture is much different in the two sectors that make up high technology, namely services and manufacturing. Indeed, high technology services recorded a long-term vacancy rate analogous to the rate recorded for Quebec as a whole, while high technology manufacturing, at 0.4%, was well below the Quebec rate. This observation is not surprising given that high technology manufacturing, in contrast to high technology services, suffered a series of blows over the last few years (the bursting of the technology bubble, the September 2001 attacks, a significant increase in the value of the Canadian dollar in relation to its U.S. counterpart, etc.). These different stress factors did have some impact on the dynamism of high technology manufacturing, and they continue to weigh on the two main components of this sector (manufacturing of computer and electronic products as well as aerospace), which have not yet resumed a satisfactory cruising speed.

With regard to long-term vacancies in manufacturing, these made up 0.7% of employment in 2005, a small increase over the previous year. Despite this increase, long-term vacancy rate in this sector remained 0.3 percentage points lower than the rate for Quebec as a whole, despite a clearly higher proportion of respondents reporting job vacancies of four or more months. It should also be noted that labour-intensive manufacturing establishments (food and beverages, textiles, clothing, furniture, etc.), at 0.9%, recorded a higher rate than the manufacturing sector as a whole. Given the many headlines that for several years now have been reporting the difficulties encountered by some of these industries (especially the clothing and furniture industries), this result may seem surprising. However, several elements can in part account for it. First of all, some industries in this group have posted an increase in employment. In this regard, according to the data of the Statistics Canada Labour Force Survey, the food industry has seen the number of its workforce grow by 3.4% since 2002, in close parallel to the numbers in the textile industry (2.6%). Secondly, even if some industries are facing increased foreign competition, some of the establishments in this grouping are still able to do well. Finally, in another aspect, one can assume that these industries simply are not able to attract the workers they need, given, among others, the working conditions they have to offer in order to remain competitive. These problems of attraction are probably exacerbated in some cases by the various negative messages about these industries conveyed by the media.

Table 4

Total number of vacancies by sector

				As a percentage of employment	
	2004	2005	Change	2004	2005
HIGH TECHNOLOGY MANUFACTURING	**1,874**	**1,717**	**-8.4 %**	**3.3 %**	**3.1 %**
ELECTRONIC AND COMPUTER PRODUCTS	325	543	67.1 %	2.1 %	3.1 %
PHARMACEUTICAL PRODUCTS	269	579	115.2 %	2.8 %	5.5 %
AEROSPACE PRODUCTS	1,280	595	-53.5 %	4.1 %	2.1 %
HIGH TECHNOLOGY SERVICES	**2,670**	**3,518**	**31.8 %**	**3.7 %**	**4.7 %**
ARCHITECTURE, ENGINEERING AND RELATED SERVICES	949	1,215	28.0 %	3.6 %	5.3 %
COMPUTER SYSTEM DESIGN	1,495	1,893	26.6 %	4.5 %	5.1 %
SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES	226	410	81.4 %	2.0 %	2.7 %
PROFESSIONAL SERVICES	**2,071**	**2,145**	**3.6 %**	**4.5 %**	**4.4 %**
CONSTRUCTION	**2,713**	**2,513**	**-7.4 %**	**2.6 %**	**2.2 %**
MANUFACTURING	**12,149**	**12,230**	**0.7 %**	**3.0 %**	**2.4 %**
LABOUR-INTENSIVE MANUFACTURING	NA	3,284	NA	NA	2.1 %
PRIMARY MANUFACTURING	NA	2,034	NA	NA	1.8 %
SECONDARY MANUFACTURING	NA	2,595	NA	NA	2.5 %
CAPITAL-INTENSIVE MANUFACTURING	NA	4,318	NA	NA	3.3 %
SERVICES	**57,040**	**57,651**	**1.1 %**	**4.1 %**	**4.0 %**
TRADE	NA	16,130	NA	NA	3.0 %
TRANSPORTATION AND WAREHOUSING	NA	2,688	NA	NA	2.2 %
FINANCE, INSURANCE, REAL ESTATE	NA	3,991	NA	NA	3.0 %
MANAGEMENT, ADMINISTRATIVE, AND SUPPORT SERVICES	NA	10,707	NA	NA	7.8 %
INFORMATION, CULTURE, AND RECREATION	NA	5,855*	NA	NA	6.0 %
ACCOMMODATION AND FOOD SERVICES	NA	10,974	NA	NA	4.9 %
OTHER SERVICES	NA	1,643	NA	NA	3.1 %
TOTAL	**71,902**	**72,394**	**0.7 %**	**3.6 %**	**3.5 %**

NA: These sectors were not covered by previous surveys or were not yet defined in the form above.

Table 5
Number of vacancies lasting at least four months, by sector

	2004	2005	Change	As a percentage of employment 2004	2005
HIGH TECHNOLOGY MANUFACTURING	**213**	**233**	**9.4 %**	**0.4 %**	**0.4 %**
ELECTRONIC AND COMPUTER PRODUCTS	39	87	123.1 %	0.2 %	0.5 %
PHARMACEUTICAL PRODUCTS	48	70	45.8 %	0.5 %	0.7 %
AEROSPACE PRODUCTS	125	76*	-39.2 %	0.4 %	0.3 %
HIGH TECHNOLOGY SERVICES	**455**	**767**	**68.6 %**	**0.6 %**	**1.0 %**
ARCHITECTURE, ENGINEERING AND RELATED SERVICES	172	401	133.1 %	0.6 %	1.8 %
COMPUTER SYSTEM DESIGN	228	322	41.2 %	0.7 %	0.9 %
SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES	55*	44*	-20.0 %	0.5 %	0.3 %
PROFESSIONAL SERVICES	**491**	**735**	**49.7 %**	**1.1 %**	**1.5 %**
CONSTRUCTION	**802**	**841**	**4.9 %**	**0.8 %**	**0.7 %**
MANUFACTURING	**2,460**	**3,561**	**44.8 %**	**0.5 %**	**0.7 %**
LABOUR-INTENSIVE MANUFACTURING	NA	1,385*	NA	NA	0.9 %
PRIMARY MANUFACTURING	NA	434*	NA	NA	0.4 %
SECONDARY MANUFACTURING	NA	670*	NA	NA	0.6 %
CAPITAL-INTENSIVE MANUFACTURING	NA	1,072*	NA	NA	0.8 %
SERVICES	**9,827**	**15,058**	**53.2 %**	**1.1 %**	**1.1 %**
TRADE	NA	3,428	NA	NA	0.6 %
TRANSPORTATION AND WAREHOUSING	NA	1,017*	NA	NA	0.8 %
FINANCE, INSURANCE, REAL ESTATE	NA	753	NA	NA	0.6 %
MANAGEMENT, ADMINISTRATIVE, AND SUPPORT SERVICES	NA	3,795*	NA	NA	2.8 %
INFORMATION, CULTURE, AND RECREATION	NA	2,060*	NA	NA	2.1 %
ACCOMMODATION AND FOOD SERVICES	NA	1,832*	NA	NA	0.8 %
OTHER SERVICES	NA	672	NA	NA	1.3 %
TOTAL	**13,089**	**19,461**	**48.7 %**	**0.7 %**	**1.0 %**

NA: These sectors were not covered by previous surveys or were not yet defined in the form above.
*: Data with asterisk indicate a low level of accuracy, the reader should be prudent in interpreting these results.

Finally, it should be noted that the long-term vacancy rate in the construction sector, at 0.7% of employment in 2005, has decreased for the third consecutive year. This decrease is probably related to the slowdown in the real estate market in Quebec.

The significant increase in long-term vacancies compared with total vacancies has some connection with labour market performance over the last few years. Indeed, general conditions of the labour market in the recent period are the best they have been in 30 years. The 8.3% unemployment rate in 2005 was the lowest since 1976, and the proportion of individuals holding a job (employment rate) has never been as high as in recent years. Needless to say, there has been a marked increase in competition between employers in order to meet their human resources requirements.

Small establishments are more likely to have recruitment difficulties

Analysis of the results relative to long-term job vacancies by establishment size reveals that small establishments are more likely to have difficulties in filling their positions. Even though the situation hardly surprises us, this new aspect of the survey (size) enables us to quantify this reality. While the long-term job vacancy rate was 1% for survey respondents as a whole, the rate was 1.5% for establishments with 5 to 19 employees, compared with only 0.6% for large establishments (100 or more employees). Thus there exists an inverse relationship between establishment size and the long-term vacancy rate. This relationship holds true regardless of the sector, since the phenomenon occurs as much in construction as in manufacturing or, as in the services.

Table 6

Long-term vacancies as a percentage of employment, by sector and establishment size, 2005

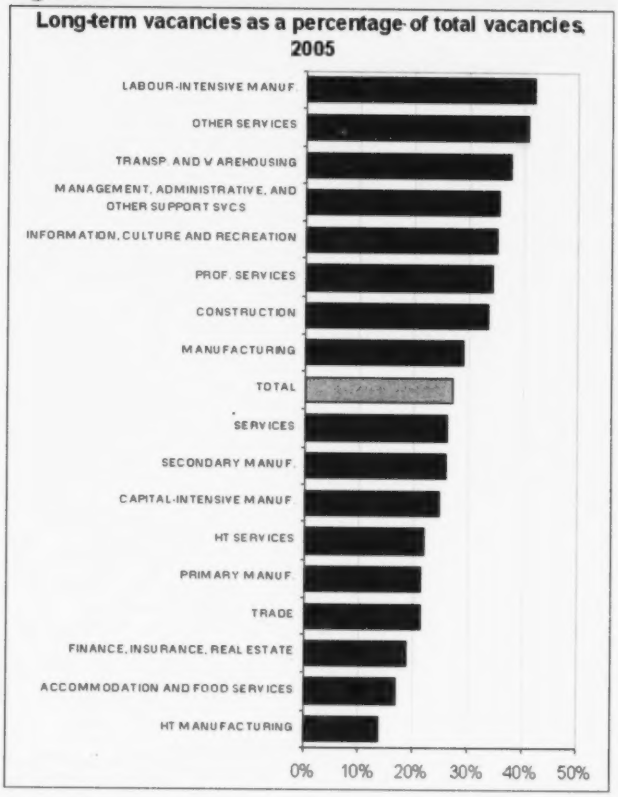
	5–19 empl.	20–99 empl.	100 or more empl.	All sizes
CONSTRUCTION	1.0 %	0.8 %	0.1 %	0.7 %
MANUF.	2.1 %	0.8 %	0.3 %	0.7 %
SERVICES	1.5 %	0.9 %	1.0 %	1.1 %
TOTAL	1.5 %	0.9 %	0.6 %	1.0 %

Despite the generalized increase in long-term vacancies, their intensity varies greatly from one industry to another...

Some industries are struggling with a high proportion of job vacancies of four or more months. Thus, despite the fact that the long-term vacancy rate is only 0.8%, job vacancies of four or more months represented 42.2% of all vacancies reported in labour-intensive manufacturing establishments (food and beverage, textiles, clothing, furniture, etc.), compared with 26.9% for respondents as a whole. In contrast, long-term job vacancies represented only 13.6% of all vacancies in high technology manufacturing establishments, while the proportion was 16.7% for the accommodation and food services sector.

This example well illustrates the fact that some industries experience a greater number of job vacancies of four or more months, and because of this they face relatively greater hiring problems. Thus, even if the accommodation and food services sector is among the leaders with regard to total vacancy rates, such is not the case for long-term vacancies. This leads one to believe that this sector has a worker retention problem rather than a recruitment problem, all the more so in that turnover in the sector is relatively high. Conversely, one might believe that difficulties related to recruitment are relatively more significant for industries that sit at the top in Figure 3.

Figure 3



... and from one establishment size to another

With the exception of construction establishments with 20 to 99 employees, it should be noted that small businesses (5–19 employees) also suffer a long-term job vacancy rate that is clearly higher than the average. In contrast, large establishments (100 or more employees) have a rate that is considerably lower in construction and manufacturing, while the rate approaches the average in the case of services.

Table 7

Long-term vacancies as a percentage of total vacancies, by sector and by size, 2005

	5–19 empl.	20–99 empl.	100 or more empl.	All sizes
CONSTRUCTION	32.2 %	41.9 %	9.7 %	33.5 %
MANUF.	56.8 %	29.8 %	16.8 %	29.1 %
SERVICES	34.5 %	24.0 %	20.3 %	26.1 %
TOTAL	36.7 %	25.5 %	19.4 %	26.9 %

Highly skilled jobs accounted for the increase in total job vacancies in 2005...

The increase in total job vacancies in 2005 is essentially attributable to highly skilled workers. There were 11,600 of them in 2004, but by 2005 their number had increased to more than 18,000, up by more than 50%. While they made up only 16.2% of the job vacancies in 2004, highly skilled workers were responsible for one out of four job vacancies (25.2%) one year later. Expressed in terms of proportion of employment, total vacancies of highly skilled workers made up 3.9% of all jobs in 2005, up 1.1 percentage points over 2004. As for technicians with below college-level skills (-10.9%) and for intermediate and elementary workers (-10.1%), they recorded a notable decrease in total vacancies.

... and the same was true for long-term vacancies

As was the case for total vacancies, the increase in long-term vacancies in 2005 was mostly attributable to highly skilled workers. For this category of worker, there were twice as many vacant jobs (7,600) in 2005 as the previous year. Expressed in terms of proportion of employment, job vacancies of four or more months represented 1.6% of jobs held in 2005 by highly skilled workers. In this group, professionals experienced the strongest growth in vacancies of four or more months.

With regard to technicians with below-college-level training, long-term job vacancies declined slightly. Between 2004 and 2005, their numbers decreased by 3.9%. Long-term vacancies made up 0.9% of employment in this group, a rate similar to that recorded in 2004.

While there was a decrease in total vacancies in intermediate and elementary jobs, the situation was quite different with regard to long-term vacancies. Indeed, there was a 33% rise in job vacancies of four or more months from 2004 to 2005, increasing from 6,700 in 2004 to 8,900 a year later. General sales and service personnel accounted for much of this increase. Indeed, they accounted for three out of four new long-term job vacancies (77.2%) for this personnel category. Despite this upsurge, vacancies of four or more months made up only 0.7% of employment for intermediate and elementary workers, a vacancy rate lower than that of labour market as a whole, at 1% in 2005.

The relative significance of long-term vacancies, up in 2005

The marked increase in long-term vacancies compared with total vacancies, found at both the sectoral and occupational levels, translated into a significant rise in the number of positions difficult to fill. Indeed, in 2005, these made up one out of four job vacancies lasting at least four months (26.9%), compared with fewer than one out of five (18.2%) a year earlier. Considering the marked increase in long-term vacancies for highly skilled workers, it is not surprising to note that the latter ranked first in this category. In 2005, two out of five job vacancies (41.2%) had lasted at least four months in this worker category, compared with slightly more than one out of four (28.3%) in 2004.

Figure 4

Long-term vacancies as a percentage of all vacancies in selected occupational groups

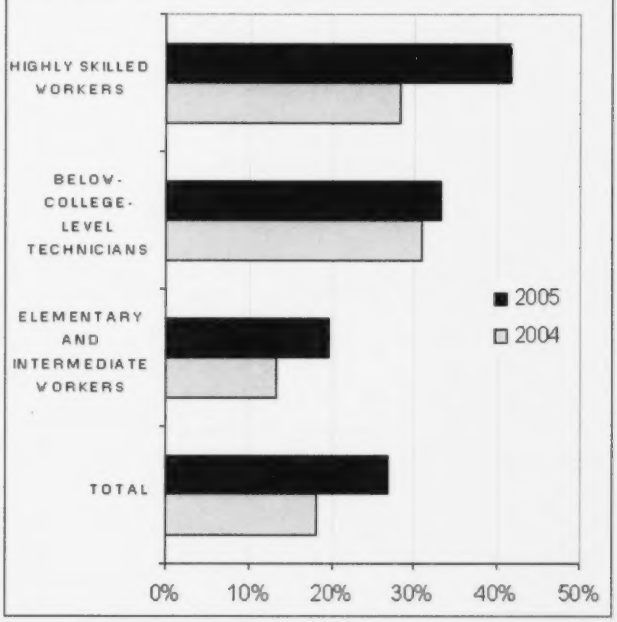


Table 8
Number of total vacancies by occupational group

	2004	2005	Change	As a percentage of employment 2004	As a percentage of employment 2005
HIGHLY SKILLED WORKERS	**11,623**	**18,264**	**57.1 %**	**2.8 %**	**3.9 %**
MANAGEMENT	2,222	2,305	3.7 %	1.3 %	1.4 %
PROFESSIONALS	6,103	10,361	69.8 %	4.3 %	6.5 %
COLLEGE-LEVEL TECHNICIANS	3,299	5,598	69.7 %	2.9 %	4.1 %
BELOW-COLLEGE-LEVEL TECHNICIANS	**10,011**	**8,922**	**-10.9 %**	**3.2 %**	**2.7 %**
SECRETARIES	907	820	-9.6 %	1.9 %	1.9 %
TRADES	6,354	6,106	-3.9 %	3.1 %	2.8 %
SUPERVISORS	2,750*	1,995	-27.5 %	4.4 %	3.1 %
INTERMEDIATE AND ELEMENTARY WORKERS	**50,268**	**45,209**	**-10.1 %**	**4.0 %**	**3.6 %**
GENERAL OFFICE PERSONNEL	3,735	3,456	-7.5 %	2.4 %	2.4 %
GENERAL SALES AND SERVICE PERSONNEL	31,454	27,282	-13.3 %	5.3 %	4.7 %
PRODUCTION WORKERS	15,078	14,470	-4.0 %	2.9 %	2.8 %
TOTAL	**71,902**	**72,394**	**0.7 %**	**3.6 %**	**3.5 %**

*: Data with asterisk indicate a low level of accuracy, the reader should be prudent in interpreting these results.

Table 9
Number of long-term vacancies by occupational group

	2004	2005	Change	As a percentage of employment 2004	As a percentage of employment 2005
HIGHLY SKILLED WORKERS	**3,284**	**7,577**	**130.7 %**	**0.8 %**	**1.6 %**
MANAGEMENT	499*	749	50.1 %	0.3 %	0.4 %
PROFESSIONALS	1,746	4,582	162.4 %	1.2 %	2.9 %
COLLEGE-LEVEL TECHNICIANS	1,039*	2,246*	116.2 %	0.9 %	1.6 %
BELOW-COLLEGE-LEVEL TECHNICIANS	**3,086**	**2,966**	**-3.9 %**	**1.0 %**	**0.9 %**
SECRETARIES	313*	155*	-50.5 %	0.7 %	0.4 %
TRADES	2,602	2,467	-5.2 %	1.3 %	1.1 %
SUPERVISORS	171*	344*	101.2 %	0.3 %	0.5 %
INTERMEDIATE AND ELEMENTARY WORKERS	**6,718**	**8,918**	**32.7 %**	**0.5 %**	**0.7 %**
GENERAL OFFICE PERSONNEL	1,026*	851*	-17.1 %	0.7 %	0.6 %
GENERAL SALES AND SERVICE PERSONNEL	2,309*	4,008	73.6 %	0.4 %	0.7 %
PRODUCTION WORKERS	3,383	4,059	20.0 %	0.7 %	0.8 %
TOTAL	**13,089**	**19,461**	**48.7 %**	**0.7 %**	**1.0 %**

*: Data with asterisk indicate a low level of accuracy, the reader should be prudent in interpreting these results.

With regard to the volume of long-term vacancies reported by respondents in 2005, highly skilled workers (7,500) were almost neck to neck with intermediate and elementary workers (8,900) in 2005, even if the latter group includes many more jobs (60% of all jobs in our survey). However, the relative importance of long-term vacancies among less-skilled workers is two times less (19.7%) than that found among the more qualified (41.5%).

As is the case for the sectors, it is the small establishments that post the highest long-term vacancy rates by occupation...

Analysis of the results for long-term vacancies by establishment size by occupation reveals the same situation as in the activity sectors, namely that the small establishments have the highest long-term vacancy rates (job vacancies of four or more months as a percentage of employment). In fact, one finds an inverse relationship between long-term vacancy rates and establishment size regardless of the occupational group being studied (highly skilled workers, below-college-level technicians, or intermediate and elementary workers). In this regard, the highly skilled workers show the highest long-term vacancy rates in the small establishments (2.7%), followed by below-college-level technicians (1.6%), while intermediate and elementary workers record a rate that is lower than the average for this establishment size (1%).

... but significant differences appear upon closer inspection

Nevertheless, a detailed examination of the results reveals that this does not apply to all occupations. In fact, with regard to highly skilled workers in small establishments, management and college-level technicians account for a long-term vacancy rate that is slightly lower than the one seen in large establishments (100 or more employees). Rather, it is the professional-level jobs that account for the considerable difference seen between the long-term vacancy rates of small and large establishments (1.1 percentage points). Indeed, the rate in 2005 for professionals in small establishments is 8.3% compared with 1.5% in the large ones. On this basis, other things being equal, one sees that small establishments have relatively more difficulties than have large ones in attracting professional-level workers, something that is not necessarily true for the two other employment groups that make up the highly skilled worker grouping. Had it not been for the professionals, the long-term vacancy rates for all the categories of establishments would have been much closer.

Table 10

Long-term vacancy rate by establishment size by occupation, 2005

	5–19 employees	20–99 employees	100 or more employees	All sizes
HIGHLY SKILLED WORKERS	**2.7 %**	**1.2 %**	**1.3 %**	**1.6 %**
MANAGEMENT	0.3 %	0.6 %	0.5 %	0.4 %
PROFESSIONALS	8.3 %	1.4 %	1.5 %	2.9 %
COLLEGE-LEVEL TECHNICIANS	1.5 %	1.7 %	1.6 %	1.6 %
BELOW-COLLEGE-LEVEL TECHNICIANS	**1.6 %**	**0.7 %**	**0.4 %**	**0.9 %**
SECRETARIES	0.6 %	0.2 %	0.2 %	0.4 %
TRADES	2.1 %	0.9 %	0.4 %	1.1 %
SUPERVISORS	0.8 %	0.3 %	0.6 %	0.5 %
INTERMEDIATE AND ELEMENTARY WORKERS	**1.0 %**	**0.8 %**	**0.4 %**	**0.7 %**
GENERAL OFFICE PERSONNEL	1.0 %	0.5 %	0.4 %	0.6 %
GENERAL SALES AND SERVICE PERSONNEL	1.0 %	0.6 %	0.4 %	0.7 %
PRODUCTION WORKERS	1.0 %	1.1 %	0.4 %	0.8 %
TOTAL	**1.5 %**	**0.9 %**	**0.6 %**	**1.0 %**

A similar situation can be seen with regard to below-college-level technicians. In fact, although generally the trades personnel accounted for the highest long-term vacancy rate of this group at 1.1%, it is the small establishments with 5 to 19 employees that have the highest rate. At 2.1%, the long-term vacancy rate for the trades personnel in small establishments is clearly higher than the rate in large establishments (0.4%).

Long-term vacancy rates decreasing in relation to establishment size, but the same needs, regardless of size

The breakdown of long-term vacancies by establishment size nevertheless shows that the occupations sought to fill long-term vacancies are the same for both small and large establishments.

Thus, highly skilled workers accounted for 40% of job vacancies of four or more months in establishments with 5 to 19 employees, this while holding only one out of four jobs (26.1%) in this category of establishment. As for establishments with 100 or more employees, highly skilled workers accounted for one out of two of the jobs that were vacant for four or more months (50.6%) in 2005, which is also higher than their ranking with regard to employment for this class of respondents (39.8%). However, it should be noted that establishments with 20 to 99 employees posted a proportion of long-term job vacancies for highly skilled workers lower than their weighting in employment, and well below that of the two other establishment classes (28.6%).

One sees a similar portrait in the case of intermediate and elementary workers. The proportion of long-term vacancies was similar for small and large establishments, approximating 40%. However, respondents with 20 to 99 employees are clearly differentiated on this point, in that job vacancies for intermediate and elementary workers made up almost 60% of long-term vacancies recorded for this establishment size. General sales and service personnel, along with production workers, accounted for the high proportion of long-term vacancies for this type of establishment.

These results show clearly the extent to which the various employers will have to compete in order to acquire these much sought-after human resources.

Table 11
Breakdown of long-term vacancies by establishment size, 2005

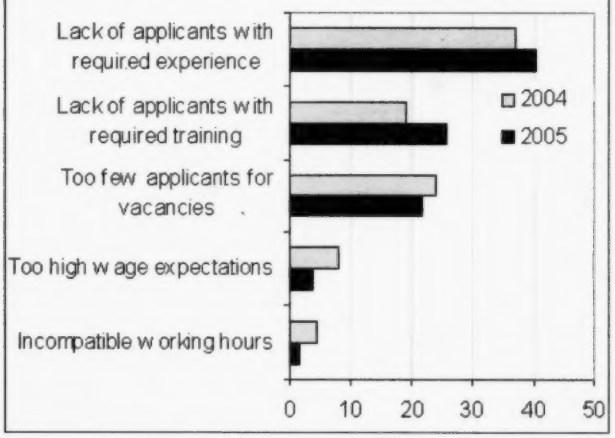
	5–19 employees	20–99 employees	100 or more employees	All sizes
HIGHLY SKILLED WORKERS	**40.7 %**	**28.6 %**	**50.6 %**	**38.9 %**
MANAGEMENT	2.3 %	5.1 %	4.8 %	3.8 %
PROFESSIONALS	32.9 %	9.7 %	26.9 %	23.5 %
COLLEGE-LEVEL TECHNICIANS	5.5 %	13.7 %	18.9 %	11.5 %
BELOW-COLLEGE-LEVEL TECHNICIANS	**20.0 %**	**14.0 %**	**8.8 %**	**15.2 %**
SECRETARIES	1.3 %	0.4 %	0.5 %	0.8 %
TRADES	17.1 %	12.6 %	5.1 %	12.7 %
SUPERVISORS	1.5 %	1.1 %	3.2 %	1.8 %
INTERMEDIATE AND ELEMENTARY WORKERS	**39.3 %**	**57.4 %**	**40.7 %**	**45.8 %**
GENERAL OFFICE PERSONNEL	4.3 %	4.3 %	4.6 %	4.4 %
GENERAL SALES AND SERVICE PERSONNEL	21.4 %	22.5 %	16.4 %	20.6 %
PRODUCTION WORKERS	13.6 %	30.6 %	19.6 %	20.9 %
TOTAL	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**

Reasons given for long-term vacancies[2]: if only experience were innate!

From the very beginning of the survey on recruitment and employment in Quebec (2002), the reason most mentioned by respondents to explain the existence of job vacancies of four or more months was "a lack of applicants with the required experience." The year 2005 was not an exception to this rule in that 40.3% of respondents gave this reason, up 3.5 percentage points from the previous year. In second place, with one out of four mentions (25.9%) by respondents, was "a lack of applicants with the required training." In comparison with 2004, this reason was up 6.8 percentage points, which constitutes the greatest increase seen with regard to causes cited to explain long-term vacancies. The marked increase in lack of training as accounting for long-term job vacancies, however, has some connection with the marked increase of such vacancies for highly skilled workers as seen above. "Too few applicants for vacancies" comes in third and is cited by slightly more than one out of five respondents (21.8%), a drop of two percentage points compared with 2004. Finally, it should be noted that "too high wage expectations" (3.7%) and "incompatible working hours," both down from the preceding year, remain marginal, and rank last.

Figure 5

Reasons given to explain the presence of long-term vacancies, all occupations combined (% of mentions)



[2] Given the size of the number of respondents on this topic, the coefficients of variation associated with the results are often quite high. Prudence in interpreting these is therefore recommended.

Large establishments seem to much prefer workers with experience

Even if the main obstacle to filling long-term vacancies remains "a lack of applicants with the required experience," an analysis of the results by establishment size shows a difference in the frequency of this mention depending on whether it is a small or large establishment. Thus, establishments with 100 or more workers placed greater importance on this factor compared with small establishments, while almost one out of two large establishments (46.7%) gave this reason to explain the existence of long-term vacancies, the proportion was 38.9% for respondents with 5 to 19 employees.

However, "a lack of applicants with the required training" is much more often mentioned by small employers (24.9%) and by medium-sized employers (29.9%) in accounting for long-term vacancies. As for respondents with 100 or more employees, this reason was given by only 18.6% of them.

Table 12

Reasons given to explain long-term vacancies by establishment size, all occupations combined, 2005 (% of mentions)

	5–19 empl.	20–99 empl.	100 or more empl.	All sizes
Lack of applicants with required experience	38.9	40.6	46.7	40.3
Lack of applicants with required training	24.9	29.9	18.6	25.9
Too few applicants for vacancies	19.2	25.3	24.7	21.8
Too high wage expectations	3.2	3.1	8.7	3.7
Incompatible working hours	1.1	1.6	4.3	1.6
Other reasons	17.1	10.9	18.2	15.2

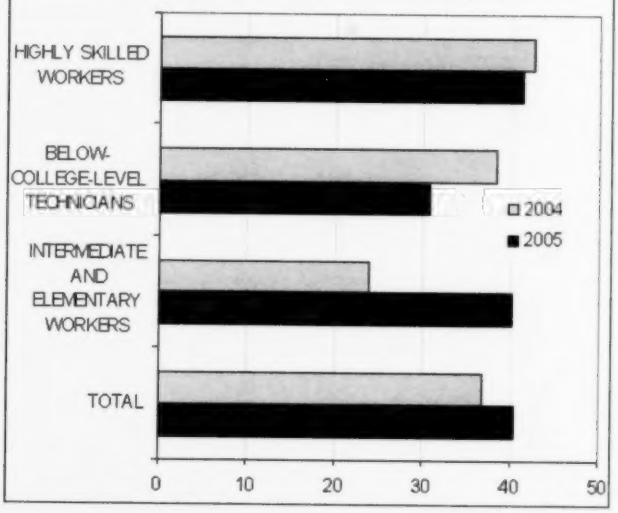
Finally, approximately one of four establishments with more than 20 workers mentioned that "too few applicants for vacancies" accounted for job vacancies of four or more months, while this reason was mentioned by only one in five respondents (19.2%) in the case of small establishments.

Causes of long-term vacancies vary depending on the occupation sought

With regard to "lack of experienced applicants" to explain the existence of long-term job vacancies, highly skilled workers as well as intermediate and elementary workers were the ones that received the most mentions at respectively 41.3% and 40.1% of mentions. With regard to intermediate and elementary workers, this reason saw a notable increase of 16.2 percentage points from 2004 to 2005. General office personnel as well as production workers accounted for this jump. As for below-college-level technicians, they received lower than the average number of this mention with a proportion of 30.7%, which corresponds to a slight drop compared with the previous year. As one can see in Table 14, a lack of experienced applicants for highly skilled jobs is by far the main reason for long-term job vacancies in establishments of 100 or more employees, with one out of two respondents (51.6%) reporting this reason.

Figure 6

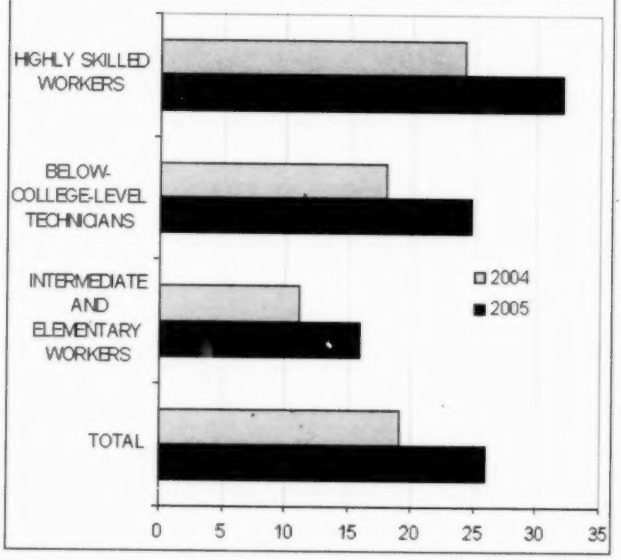
Lack of applicants with the required experience as justification for long-term vacancies by main occupational group (% of mentions)



With regard to "a lack of applicants with the required training," the number of mentions declines with the level of skill demanded. Thus, highly skilled workers rank first (32%), followed by below-college-level technicians (24.8%), and by intermediate and elementary workers (15.9%). It is not surprising to see such a relationship between recruitment difficulties and training, given that to acquire specialized knowledge generally calls for a longer training period. In addition, it is worth pointing out that this relationship is constant over time, since one sees it from the very beginning of the survey (2002). Finally, with the exception of below-college-level technicians, Table 14 shows that this reason is especial'y cited by small and medium-sized establishments, whereas it does not seem to be much mentioned by establishments with 100 or more employees.

Figure 7

Lack of applicants with the required training as justification for long-term vacancies by main occupational group (% of mentions)



The mention related to "too few applicants for vacancies," especially applies to the below-college-level technicians (26.3%). Moreover, it is only in this occupational category that one sees an increase in the number of establishments citing this reason, compared with 2004.

As for the mention related to "too high wage expectations," it is in decline in all occupational categories. Only 3.7% of respondents included it as one of the reasons explaining long-term vacancies. The rate was highest for large establishments (8.7%), whereas among small and medium-sized establishments the rate was clearly lower than the average. Finally, the reason related to "incompatible working hours" continues to be marginal, in that only 1.6% of respondents mentioned it when accounting for long-term job vacancies.

Figure 8

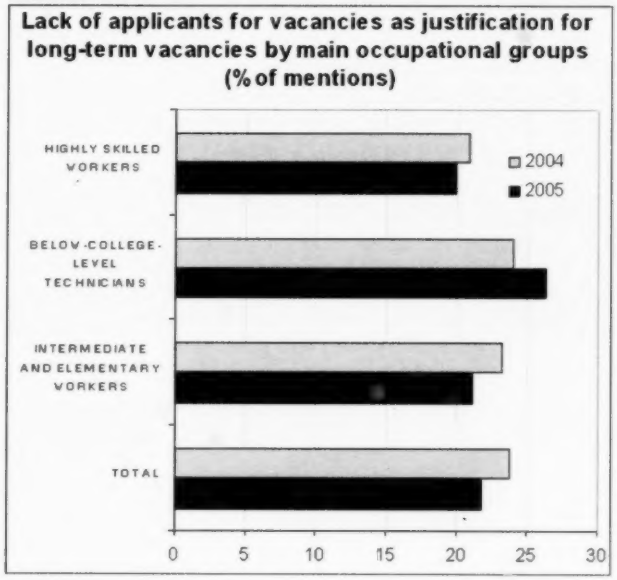


Figure 9

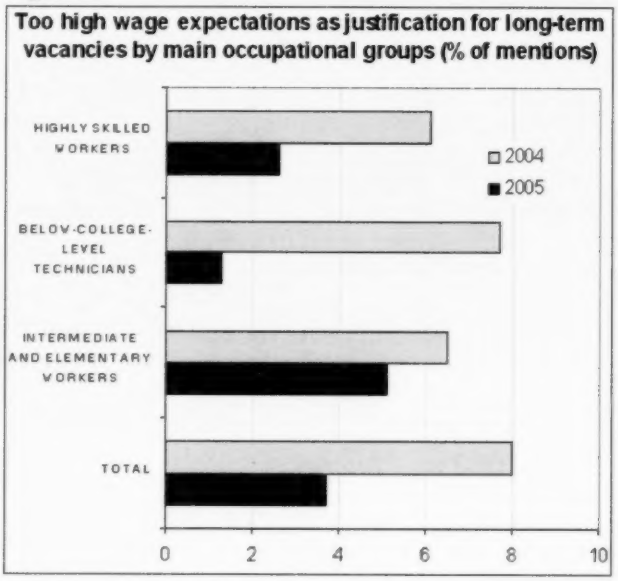


Table 13

Reasons for long-term vacancies by occupation (% of mentions)

	Too few applicants for vacancies		Lack of applicants with required training		Lack of applicants with required experience		Too high wage expectations		Incompatible working hours		Other reasons	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
HIGHLY SKILLED WORKERS	**20.9**	**19.9**	**24.2**	**32.0**	**42.6**	**41.3**	**6.1**	**2.6**	**4.9**	**0.2**	**10.2**	**9.6**
MANAGEMENT	19.4	9.3	7.5	23.7	40.8	55.0	6.6	2.1	0.0	0.0	25.6	8.3
PROFESSIONALS	24.7	13.9	21.1	31	35.4	39.5	6.9	1.9	6.9	0.2	6.0	14.1
COLLEGE-LEVEL TECHNICIANS	16.5	30.6	33.3	38.2	40.9	27.0	1.1	2.9	2.0	0.2	6.2	1.4
BELOW-COLLEGE-LEVEL TECHNICIANS	**24.0**	**26.3**	**18.0**	**24.8**	**38.3**	**30.7**	**7.7**	**1.3**	**1.6**	**0.7**	**11.1**	**17.5**
SECRETARIES	0.0	1.6	21.5	4.5	28.3	37.0	21.1	0.0	0.4	1.9	28.7	55.1
TRADES	29.1	32.1	17.2	30.1	40.5	23.5	5.0	1.1	1.6	0.1	6.6	13.1
SUPERVISORS	35.7	8.2	12.0	6.9	37.7	63.7	0.0	2.8	4.3	2.8	10.3	15.6
INTERMEDIATE AND ELEMENTARY WORKERS	**23.3**	**21.2**	**11.2**	**15.9**	**23.9**	**40.1**	**6.5**	**5.1**	**4.6**	**2.8**	**37.9**	**17.6**
GENERAL OFFICE PERSONNEL	16.8	10.6	6.5	15.6	19.1	50.3	4.2	3.3	12.3	1.5	41.2	18.7
GENERAL SALES AND SERVICE PERSONNEL	21.6	25.7	8.8	16.7	33.3	37.2	6.4	2.7	2.2	2.1	27.7	15.5
PRODUCTION WORKERS	24.6	13.7	11.1	9.9	10.5	36.4	5.2	10.1	1.6	4.2	46.2	25.5
TOTAL	**23.8**	**21.8**	**19.1**	**25.9**	**36.8**	**40.3**	**8.0**	**3.7**	**4.6**	**1.6**	**22.1**	**15.2**

Table 14

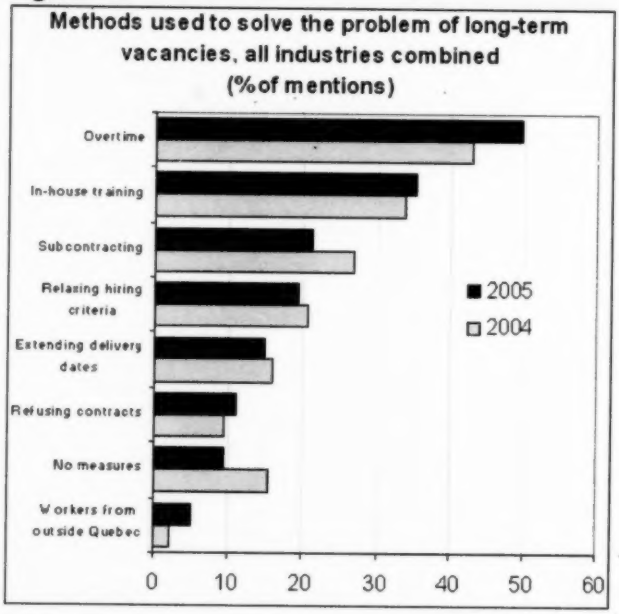
Main reasons for long-term vacancies by establishment size by occupation, 2005 (% of mentions)

	5–19 employees	20–99 employees	100 or more employees	All sizes
LACK OF APPLICANTS WITH THE REQUIRED EXPERIENCE				
HIGHLY SKILLED WORKERS	40.0	39.2	51.6	41.3
BELOW-COLLEGE-LEVEL TECHNICIANS	30.7	35.5	20.1	30.7
INTERMEDIATE AND ELEMENTARY WORKERS	43.8	33.1	39.6	40.1
TOTAL	38.9	40.6	46.7	40.3
LACK OF CANDIDATES WITH THE REQUIRED TRAINING OR EDUCATION				
HIGHLY SKILLED WORKERS	36.4	33.7	14.6	32.0
BELOW-COLLEGE-LEVEL TECHNICIANS	26.2	16.4	35.4	24.8
INTERMEDIATE AND ELEMENTARY WORKERS	15.4	18.8	9.6	15.9
TOTAL	24.9	29.9	18.6	25.9
TOO FEW APPLICANTS FOR VACANCIES				
HIGHLY SKILLED WORKERS	15.2	23.8	20.9	19.9
BELOW-COLLEGE-LEVEL TECHNICIANS	22.8	36.6	25.0	26.3
INTERMEDIATE AND ELEMENTARY WORKERS	16.4	29.0	26.1	21.2
TOTAL	19.2	25.3	24.7	21.8

Methods used to make up for long-term vacancies[3]: overtime continues to be the measure preferred by employers...

In 2005, one out of two establishments (49.8%) reported having used overtime to make up for long-term job vacancies. It is by far the measure most used by respondents as a whole. In second place, 35.4% of respondents offered in-house training in order to make up for job vacancies of four months or more. As for subcontracting or relaxing hiring criteria, these measures were used by about one in five respondents in 2005. Coming last, with 15% and 11.1% of mentions respectively, were extending delivery deadlines and refusing contracts. Finally, it should be noted that resorting to workers from outside Quebec as a method of filling long-term vacancies remains marginal, in that this measure was mentioned by only 4.9% of respondents, compared with 2.2% one year earlier.

Figure 10



On a more detailed level, the use of overtime is especially frequent in the manufacturing sector as well as in some service sectors, notably those that are relatively specialized. In this regard, for professional services, those in high technology as well as those related to the finance, insurance and real estate, and

[3] Given the size of the number of respondents on this topic, the coefficients of variation associated with the results are often quite high. Prudence in interpreting these is therefore recommended.

trade (wholesale and retail) sectors, this option is mentioned in a proportion higher than the average for services as a whole. As for respondents from other service components, they cite this measure in proportions ranging from 36.9% for accommodation and food services to 34.2% for information, culture and recreation services. As for the manufacturing industry, the high technology manufacturing establishments make heaviest use of the overtime option (62.9%). Finally, it should be noted that overtime is used by only 37.4% of respondents from the construction sector.

Figure 11

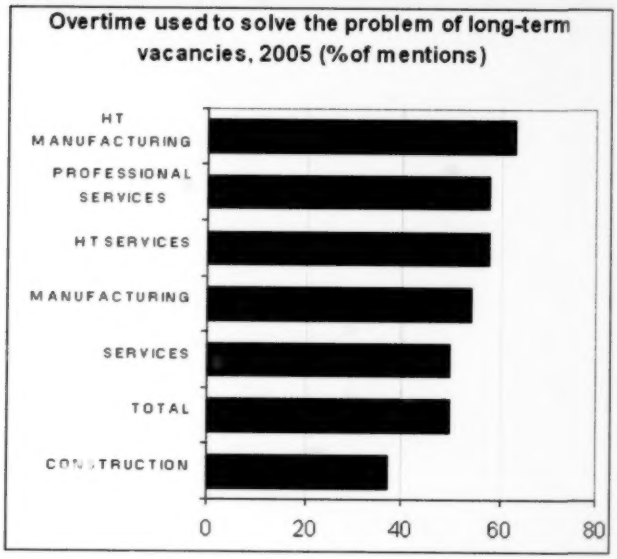
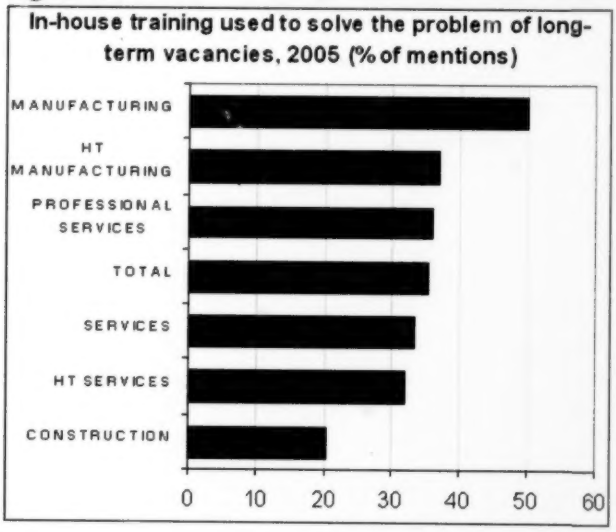


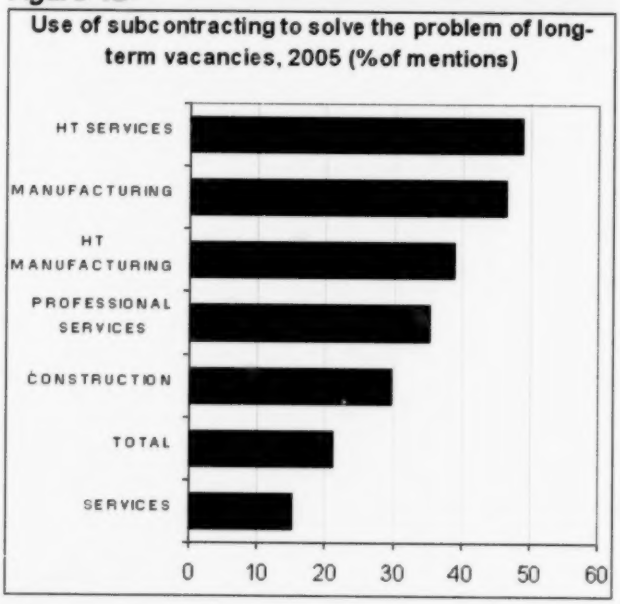
Figure 12



As for in-house training, one out of two respondents in the manufacturing sector (49.9%) reported having used this method to make up for long-term vacancies in 2005. This measure is used especially by manufacturing establishments in which capital (machinery) is an important factor in the manufacturing process (printing, transportation equipment, machinery, etc.). The proportion of in-house training is similar in other sectors, with the exception of construction where only 20% of respondents mentioned in-house training.

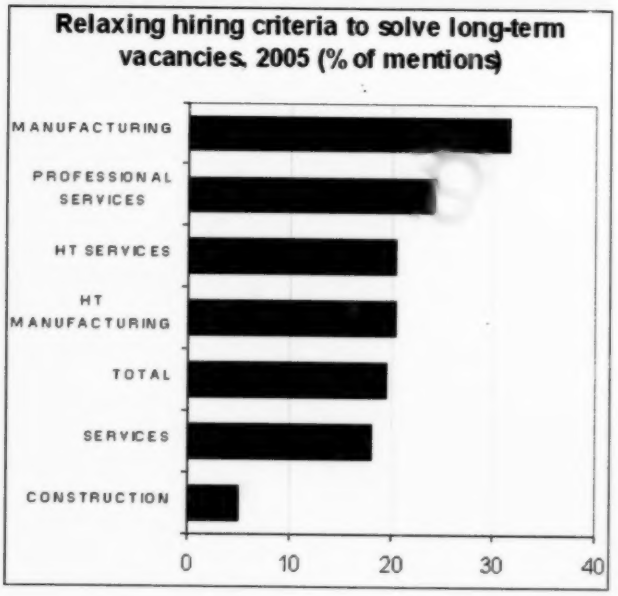
The use of subcontracting got 46.4% mentions from manufacturing establishments as a whole, a proportion that places them far ahead of the services, where only 15.1% of respondents reporting using this method. Despite this low use recorded, professional and high technology services clearly differentiate themselves from their peers, in that respondents from these sectors mentioned having used sub-contracting to make up for long-term vacancies in proportions of 35% and 48.9% respectively.

Figure 13



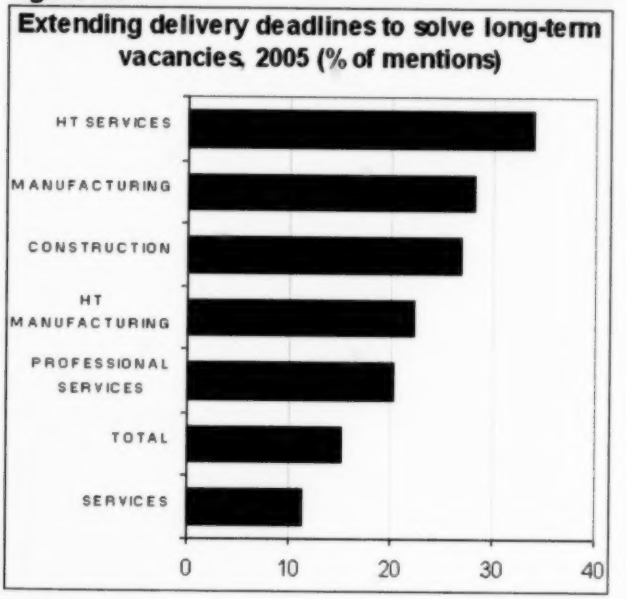
Relaxing hiring criteria to make up for long-term vacancies is a method used by 31.5% of respondents in manufacturing, compared with 18% for services. However, respondents from high technology manufacturing seem to be less inclined to relax their hiring criteria then other manufacturing industries in that only one out of five respondents (20.4%) in this sub-sector mentioned choosing this option.

Figure 14



As for extending the delivery deadline as an alternative to long-term vacancies, this option is especially present in the manufacturing sector where it was mentioned by 28.2% of respondents. High technology services, however, set themselves apart from all the service establishments. Indeed, these services, in a proportion of 33.9%, report having used this method to make up for long-term vacancies, while this solution is chosen only by 11.3% of respondents in the sector as a whole. In contrast to preceding reasons, where construction was found to rank last, it should be noted that extending delivery times is a method used by 26.7% of respondents in this sector to make up for long-term vacancies, placing this sector among the leaders with regard to using this measure.

Figure 15



Construction establishments, much like those in high technology services, are the ones that in the largest proportion have had to refuse contracts because of a shortage of workers to fill jobs that have been vacant for more than four months. Apart from these two sectors, not many respondents have resorted to this method, regardless of the sector in which they are active.

Figure 16

Finally, recruiting workers from outside Quebec in order to fill long-term vacancies is above all used by establishments having a high weighing of highly skilled workers. High technology manufacturing and services rank first and second in this group, in that this measure was cited, respectively, by 16.7% and 13.6% of respondents. At 10.6%, professional services rank third.

Table 15

Methods used to solve the problem of long-term vacancies, 2005 (% of mentions)

	Over-time.	In-house training	Sub-contracting	Relaxing hiring criteria	Extending delivery deadline	Refusing contracts	Workers from outside Quebec	No measures	Other
HIGH TECHNOLOGY MANUFACTURING	**62.9**	**37.1**	**38.9**	**20.4**	**22.2**	**7.4**	**16.7**	**NA**	**20.4**
HIGH TECHNOLOGY SERVICES	**57.8**	**31.9**	**48.9**	**20.4**	**33.9**	**30.8**	**13.6**	**7.6**	**22.7**
PROFESSIONAL SERVICES	**57.8**	**35.8**	**35.0**	**24.1**	**20.1**	**8.5**	**10.6**	**4.8**	**17.5**
CONSTRUCTION	**37.4**	**20.5**	**29.7**	**5.0**	**26.7**	**35.7**	**NA**	**2.5**	**16.7**
MANUFACTURING	**54.4**	**49.9**	**46.4**	**31.5**	**28.2**	**7.4**	**5.7**	**4.3**	**14.9**
LABOUR-INTENSIVE MANUFACTURING	39.8	40.5	47.5	35.3	31.0	NA	NA	NA	16.8
PRIMARY MANUFACTURING	68.6	48.1	23.4	35.1	35.1	NA	NA	NA	29.5
SECONDARY MANUFACTURING	44.3	54.8	43.0	19.9	14.8	NA	NA	NA	19.4
CAPITAL-INTENSIVE MANUFACTURING	71.3	56.2	56.2	35.1	33.0	NA	NA	NA	4.6
SERVICES	**49.8**	**33.4**	**15.1**	**18.0**	**11.3**	**9.9**	**4.7**	**11.1**	**29.7**
TRADE	62.3	43.5	4.0	16.6	13.0	NA	NA	NA	27.9
TRANSPORTATION AND WAREHOUSING	35.2	26.5	46.9	40.8	NA	NA	NA	NA	3.1
FINANCE, INSURANCE, REAL ESTATE	55.0	31.7	29.4	13.6	11.5	NA	NA	NA	17.1
MANAGEMENT, ADMINISTRATIVE	36.6	24.7	16.4	23.3	2.5	NA	NA	NA	23.0
INFORMATION, CULTURE, AND RECREATION	34.2	51.1	12.1	38.7	6.2	NA	NA	NA	43.8
ACCOMMODATION AND FOOD SERVICES	36.9	19.0	6.0	6.0	NA	NA	NA	NA	50.4
OTHER SERVICES	31.6	24.3	24.0	26.9	21.3	NA	NA	NA	26.1
TOTAL	**49.8**	**35.4**	**21.2**	**19.5**	**15.0**	**11.1**	**4.9**	**9.5**	**26.4**

NA: These data are not available either due to confidentiality or because these sectors were not covered by previous surveys or had not yet been defined in the form above.

The method used as an alternative to long-term vacancies is influenced by establishment size

Despite the fact that overtime was the method most used to make up for long-term vacancies, the intensity of use of this measure varies widely with establishment size. Thus, large establishments (100 or more employees) make heavy use of this possibility, with 60% of respondents mentioning it. As for small establishments with 5 to 19 employees, this proportion becomes 44.5%, a difference of more than 15 percentage points between the two classes of establishments.

In-house training ranks second as an alternative to long-term vacancies, this being true regardless of establishment size. All the same, this measure is much less used in small establishments than in larger ones, with twice fewer mentions (25.9%) than is the case for medium-sized and large establishments (slightly less than 50%). Thus, with regard to in-house training, there is a significant gap between small and large establishments.

Although only one out of five respondents cited relaxing hiring criteria as a way of filling a vacant job, it should be noted that large establishments are much more inclined to use this measure (39.1%) than establishments with 5 to 19 employees (12.9%). And one finds a similar relationship in the area of subcontracting.

As for refusing contracts or even choosing the status quo (taking no measures), it should be noted that the small establishments cite these methods more often than large establishments.

Finally, it can be seen that establishments with 100 or more employees are, above all, the ones that recruit workers from outside Quebec, in that almost one in five respondents (17%) reported having chosen this solution.

Table 16

Methods used to solve the problem of long-term vacancies by establishment size, 2005 (% of mentions)

	5–19 employees	20–99 employees	100 or more employees	All sizes
OVERTIME	44.5	55.8	60.0	49.8
IN-HOUSE TRAINING	25.9	47.3	49.7	35.4
SUBCONTRACTING	13.8	30.7	31.5	21.2
RELAXING HIRING CRITERIA	12.9	24.6	39.1	19.5
EXTENDING THE DELIVERY DEADLINE	16.2	12.9	15.8	15.0
REFUSING CONTRACTS	14.4	7.8	3.9	11.1
NO MEASURES TAKEN	13.5	3.3	7.0	9.5
USING LABOUR SOURCES FROM OUTSIDE QUEBEC	3.7	3.2	17.0	4.9
OTHER	30.6	19.1	26.4	26.4

III. Worker Training

A high correlation exists between workers' skill levels and the presence or absence of training activities ...

The training of human resources in the workplace is a significant lever used by establishments, and it makes up an integral part of their development strategies. As a general rule, this practice helps to increase worker productivity, which is an advantage for businesses at a time when world trade plays an increasingly major role. Because worker productivity is an important element of the labour market and for the economy in general, in 2005 we added a question about this aspect. "Training activity" means any structured activity intended to develop employee skills. It may take place in-house or externally. All the same, it excludes all on-the-job training.

Slightly more than one out of two establishments (54.9%) reported having offered training activities to their employees. This practice, however, is more widespread in sectors with a heavy concentration of highly skilled workers. Thus, manufacturing establishments and high technology services along with professional services and finance, insurance and real estate services ranked at the top, with at least 70% of respondents reporting that they had offered developmental activities to their employees.

With more than three out of five respondents (63.6%), manufacturing establishments were above the average for all industries combined with regard to worker training. It should be noted that this proportion increases with the technical complexity of manufacturing procedures. In fact, slightly more than one of two respondents (54%) from labour-intensive manufacturing industries reported having resorted to training, while the ratio increased to 71.4% for capital-intensive manufacturers.

Finally, the service sector trails the field with a proportion similar to the average for all establishments (54.4%). In this group, accommodation and food services post the lowest proportion with fewer than one out of three respondents (30%) from this industry reporting that they had offered any training to their employees. This finding is not surprising in that the literature on this subject shows clearly that training offers increase with the level of worker skills. To illustrate, in our survey, workers in highly skilled jobs held only one out of ten jobs (9.1%) in accommodation and food services, compared with four out of five (79.4%) of the intermediate and elementary jobs. The findings of the survey thus point in that direction.

To sum up, whether in manufacturing or in services, the presence or absence of training activities for personnel seems to be closely related to the concentration of highly skilled workers in that industry.

Table 17

Percentage of establishments that financed employee training activities, 2005

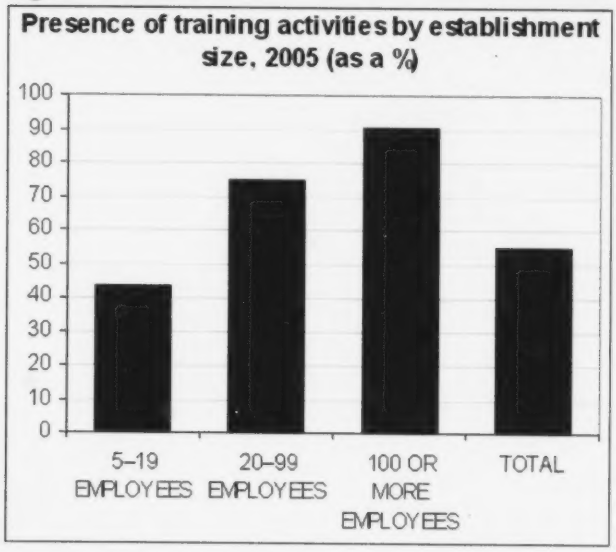
	%
HIGH TECHNOLOGY MANUFACTURING	**78.2**
ELECTRONIC AND COMPUTER PRODUCTS	75.1
PHARMACEUTICAL PRODUCTS	85.1
AEROSPACE PRODUCTS	84.6
HIGH TECHNOLOGY SERVICES	**77.7**
ARCHITECTURE, ENG. AND RELATED SERVICES	77.5
COMPUTER SYSTEM DESIGN	76.3
SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES	82.5
PROFESSIONAL SERVICES	**69.4**
CONSTRUCTION	**46.7**
MANUFACTURING	**63.6**
LABOUR-INTENSIVE MANUFACTURING	54.0
PRIMARY MANUFACTURING	67.4
SECONDARY MANUFACTURING	68.5
CAPITAL-INTENSIVE MANUFACTURING	71.4
SERVICES	**54.4**
TRADE	54.1
TRANSPORTATION AND WAREHOUSING	57.9
FINANCE, INSURANCE, REAL ESTATE	72.7
MANAGEMENT, ADMINISTRATIVE, AND SUPPORT	63.9
INFORMATION, CULTURE, AND RECREATION	62.8
ACCOMMODATION AND FOOD SERVICES	30.0
OTHER SERVICES	55.8
TOTAL	**54.9**

... and with establishment size

Establishment size is also a factor that influences the probability that a worker will be offered some training by his employer. Indeed, literature on this subject shows a positive correlation between establishment size and the likelihood that a worker will have access to courses aimed at perfecting his skills.

The findings of this survey point in that direction. Thus, a major gap exists between establishments with 5 to 19 employees and those with more than 20. In fact, the proportion of small establishments providing training activities is twice lower than that of large establishments (100 or more employees). In addition, this relation is seen regardless of sector of activity analyzed.

Figure 17



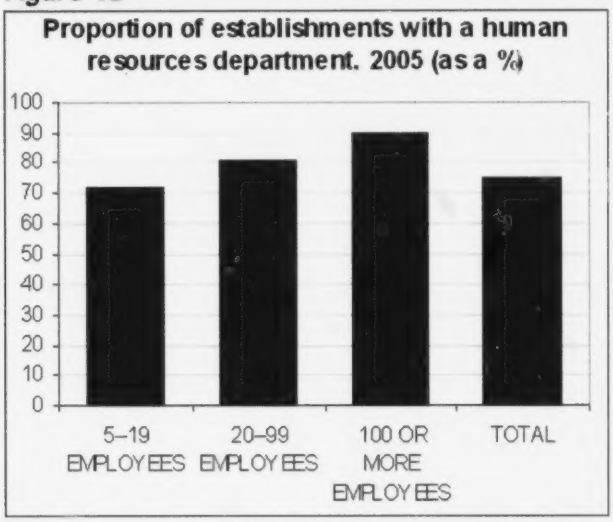
IV. Human Resources Management

At the time of the 2005 survey, it was decided that human resources management would receive special attention, and one section of the questionnaire addressed it. In the context of a shrinking labour pool due to an aging population, an effective management of human resources can be an asset for an organization (attraction and retention of workers, etc.).

The majority of establishments have a human resources management team

Three quarters of establishments (75.2%) report having a functioning department of human resources, or indeed they report having a person assigned to this aspect. However, this proportion varies according to the size of the establishment being surveyed. Thus, establishments with 5 to 19 employees posted the lowest frequency of respondents who acknowledged having at least one person responsible for human resources, whereas 71.7% of them reported having a human resources department. In contrast to small establishments, the majority of respondents having 100 or more employees had resources that were responsible for employees (89.8%). To sum up, establishment size continues to play a key role that influences the presence or absence of human resources management in an establishment.

Figure 18



Organization of human resources management also varies from one establishment size to another

Either the owner (36.9%) or an employee (25.8%) is generally responsible for human resources in small establishments. In a few cases only (6.5%), one finds a team that is responsible for employee management in this establishment class. Even though the percentage is low (2.2%), it is important to see that small establishments are more likely to entrust their human resources to someone outside their establishment than are those having 100 or more employees (0.8%).

It is not surprising to find that human resources management in large establishments is more likely to be entrusted to a team, given the number of workers involved. Thus, more than one out of two respondents (54.5%) with 100 or more employees reported having a human resources department in place. In some cases (30.2%), this work is entrusted to an employee. Finally, it should be noted that only 4% of owners with 100 or more employees are personally in charge of human resources management, a situation that is especially common in the construction sector.

Finally, the specific management of human resources is not the only job of the individual(s) responsible for this aspect, in that nine out of ten respondents (89.2%) spent less than 50% of their working time on it. However, one sees that the time dedicated to human resources management increases with the number of employees to be managed.

Table 18

Organization of human resources management by establishment size, 2005 (as a %)

	5–19 empl.	20–99 empl.	100 or more empl.	All sizes
Human resources departments	6.5	18.0	54.5	12.3
Owner	36.9	21.9	4.0	30.9
Employee	25.8	39.0	30.2	29.8
External resources	2.2	1.5	0.8	1.9
Someone else	0.3	0.3	0.3	0.3

Important issues in human resources management...

In the light of the results of the survey, certain issues seem to have a greater priority than others in human resources management. Training of personnel along with their motivation and recognition are at the head of the concerns that respondents have. Indeed, about two out of three establishments report that they had implemented measures to improve these aspects. The workplace climate, as reported by respondents, is also an element not to be neglected, and three out of five establishments (60.7%) have taken action to improve it. As one can see in Table 19, these measures are given even a greater priority in establishments with more employees.

As for work-family reconciliation, it was mentioned by one out of two respondents (49%). In addition, it should be noted that, in contrast to preceding measures, work-family reconciliation has the same importance in the eyes of respondents, and this regardless of establishment size.

Measures aimed at improving procedures of hiring and recruitment are also central concerns of human resources managers, and somewhat less than one out of two establishments reported that they had taken actions to improve this aspect. This finding varies, however, according to establishment size. Thus, large establishments seem to place greater emphasis on recruiting and hiring personnel than do small establishments. Considering the expected aging of the population in the coming years and the tightening of the labour market that should result from it, it would appear that the large establishments probably have a head start in this regard.

Despite the issues related to personnel retention caused by a relative scarcity of labour in the coming years and the costs associated with training new workers, only two out of five respondents (40.9%) said they had implemented measures aimed at reducing personnel turnover.

As for succession planning (workers and entrepreneurs), only 39.8% and 30.6% of the establishments admitted to having planned for future labour needs and for needs related to the replacement of executives.

Finally, despite the fact that immigration is an avenue taken into consideration for dealing with the effects of an aging population, only one out of five respondents (22%) reported that they had thought about methods of adapting human resources management to personnel cultural diversity, which, let it be said in passing, will probably soon be of rapidly increasing importance. Indeed, in order to counter the effects related to the aging of the population, the government is committed, among other things, to increase the number of people immigrating in the coming years.

Table 19

Measures implemented in human resources management by establishment size, 2005 (% of mentions)

	5–19 employees	20–99 employees	100 or more employees	All sizes
PERSONNEL TRAINING	62.7	73.8	86.9	67.6
MOTIVATING PERSONNEL	63.8	69.6	75.2	66.3
WORKING CLIMATE	57.9	63.6	73.7	60.7
RECONCILING WORK AND FAMILY	49.0	48.7	49.6	49.0
HIRING AND RECRUITMENT	39.5	58.6	70.1	47.2
TURNOVER OF PERSONNEL	38.6	43.2	52.2	40.9
SUCCESSION OF WORKFORCE MEMBERS	37.8	41.1	53.1	39.8
ENTREPRENEURIAL SUCCESSION	29.1	33.1	34.4	30.6
CULTURAL DIVERSITY	18.9	26.0	34.8	22.0

... but much remains to be done

Despite the fact that more than two out of three respondents had made arrangements to promote personnel training, 50% of them estimated that further improvements are necessary. As a general rule, this concern holds true regardless of establishment size, something that is in contrast to the situation described above.

While labour succession planning and improvement of hiring and recruitment procedures came last in the preceding section, almost one out of two respondents admitted that these points should be improved. These aspects thus arrive in second and third place as related to respondents' concerns. Once again, establishment size has very little to do with the answers given.

Finally, it should be emphasized that establishments are very little concerned about managing cultural diversity, in that little more than one out of four respondents (26.2%) hoped to improve on this aspect. With regard to improving measures related to work-family reconciliation, this as well was mentioned by slightly more than one out of four respondents (26.2%). They seem to be satisfied with measures taken regarding work-family reconciliation because this action ranked in the middle in the preceding table.

Table 20

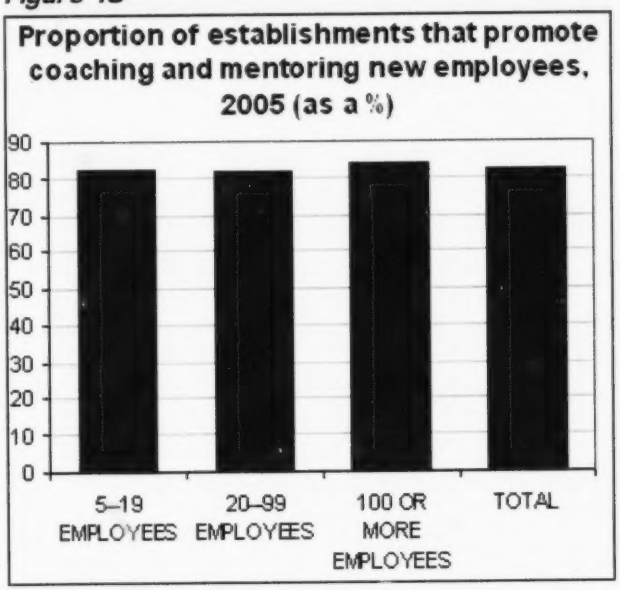
Aspects in human resources management that require some or a great deal of improvement, 2005 (% of mentions)

	5–19 employees	20–99 employees	100 or more employees	All sizes
PERSONNEL TRAINING	46.0	53.0	50.1	48.6
SUCCESSION OF WORKFORCE MEMBERS	44.3	50.9	52.2	47.0
HIRING AND RECRUITMENT	48.0	43.0	40.1	45.4
MOTIVATING PERSONNEL	39.7	51.6	48.1	44.0
TURNOVER OF PERSONNEL	42.6	43.0	48.7	43.2
WORKING CLIMATE	40.4	46.4	39.7	42.2
ENTREPRENEURIAL SUCCESSION	31.3	34.6	40.6	33.0
CULTURAL DIVERSITY	28.4	22.6	26.6	26.2
RECONCILING WORK AND FAMILY	25.3	27.0	32.2	26.2

Coaching and mentoring widely used by establishments to promote the integration of new employees

Coaching and mentoring of new employees is widespread regardless of the size of the establishment surveyed. More than four out of five respondents said they were using such measures in order to promote the integration of new employees (82.3%). Analysis of results according to establishment size reveals no significant contrast among the various classes of establishments chosen, proportions being very similar from one to the other. Note all the same that this practice is more common in construction, where almost nine out of ten respondents (87.9%) reported having resorted to this measure.

Figure 19



APPENDIX I—CONCEPTS, DEFINITIONS, AND METHODS (2006)

(For a comprehensive description of EREQ methodology, the interested reader can consult the report on the methodology of the survey available (French only) on the CETECH Web site: www.cetech.gouv.qc.ca*)*

Structure and Scope of the Survey

The objective of the annual Enquête sur l'emploi et le recrutement au Québec (EREQ) (survey of recruitment and employment in Quebec), designed and conducted by CETECH in collaboration with the Institut de la statistique du Québec (ISQ), is to track the trends in the science-technology fields. The survey takes a comparative perspective and sets out to give an account of the current employment and labour market trends in high technology sectors and the highly skilled occupations, in comparison with other sectors and other less-skilled occupations. The survey focuses on business enterprises with five or more employees, with the exception of the primary industry. Also excluded are establishments in the public and parapublic sectors.

The choices of high technology sectors were inspired mainly by OECD criteria and were made in relation to the weighting of the natural and applied sciences occupations as well as in relation to the concentration of research and development (R&D) personnel in the various sectors. There are various ways of classifying high technology industries. Some of these are more widely accepted than others but none has unanimous approval. Some authorities emphasize, not without reason, that more emphasis should be placed on high technology businesses than on high technology sectors or industries. Then, too, one finds scientific personnel or R&D activities in a multitude of activity sectors. But some sectors carry out R&D, use advanced techniques and procedures, or employ scientific personnel much more than others.

Most high technology industry groupings that have been developed over the years have used an analysis "lens" focused on industrial production and are often limited to the manufacturing sector alone. We believe that when analyzing the labour market, one must first and foremost pay attention to the characteristics of the workforce.

The industries that we have chosen to include in our high technology grouping are industries that, in far greater proportions than others, employ workers specializing in the natural and applied sciences along with R&D personnel. By the same token, most of these sectors are the ones with the highest R&D expenditures and are also more or less the same as those chosen by the OECD in the case of the manufacturing sector. The survey also recognizes the increasingly important role of services in scientific and technical activity—and in the economy as a whole—whereas it is not taken into consideration in most of the groupings that we explored.

High technology industries do not employ solely scientific personnel or highly educated workers, nor do they employ them in the same proportions, which vary from one industry to another. Businesses in the service sector, for example, employ more professionals whereas businesses in the manufacturing sector generally employ more technicians, trades people, or workers who have very little specialization or none at all. Moreover, in high technology industries one finds accountants, secretaries, and workers from several other fields, much like in the rest of the economy. Similarly, professionals and technicians in the natural and applied sciences and R&D personnel occupy an important place in high technology industries, but they are also found elsewhere in the economy. For example, according to the 2001 Census, government service was, in absolute numbers, the second largest employer of natural and applied science workers.

The industries that make up our "high technology" grouping and their corresponding NAICS codes are given below:

High Technology Manufacturing
3254 Pharmaceutical and Medicine Manufacturing
334 Computer and Electronic Product Manufacturing
3364 Aerospace Product and Parts Manufacturing

High Technology Services (or scientific or technical services)
5413 Architectural, Engineering, and Related Services
5415 Computer Systems Design and Related Services
5417 Scientific Research and Development Services

Two of these industries, computer and electronic product manufacturing and computer systems design, are directly involved in the development of information and communications technologies (ICTs). Moreover, these industries form the solid core of a broader definition of ICTs developed by the OECD and Statistics Canada, a definition that notably includes industries such as telecommunication services, wholesale trade in computers and in communication materials, software publishing, data processing services, and making communication wires and cables.

However, most of these industries do not meet our criteria with regard to a high intensity of personnel specializing in the natural and applied sciences or in R&D. For example, the telecommunication services industry stands out more for its highly intensive use of ICT, much like finance, insurance, or trade (the wholesale and retail trade). The telecommunications industry calls mainly for skills in management and sales, and employs relatively few R&D personnel.

That said, the industries we have chosen, based on the criteria specified above, contain the bulk of the jobs in the high technology industries. However, one notes that the availability and reliability of data involve making some compromises. Our group of high technology services—derived by dividing into two groups the single NAICS grouping of professional, scientific and technical services—does not include, for example, environmental consulting services or other scientific and technical services, which are amalgamated with management consulting services. We have made the choice of classifying these industries with professional services, which we also follow closely, based on the assumption that management consultants make up the largest part of this group.

The breakdown of jobs by skill level is done according to the categories in the National Occupational Classification (NOC) following the detailed grid that has been added to the questionnaire and that can be consulted in Appendix II. As for highly skilled workers, they include managers, professionals who usually have a university education, and technicians with a college education.

As has already been explained in other publications, in order to be consistent with the OECD definition of skilled personnel (having completed postsecondary education), CETECH has taken the initiative of dividing the technicians as found in the NOC into two groups. The first group includes jobs normally requiring a college-level education and are grouped with highly skilled workers under the category college-level technicians. The second group, made up of below-college-level technicians, includes the trades and holders of a competency certificate (mechanics, electricians, welders, carpenters, etc.), to which must be added

secretarial personnel as well as some groups of technical sales and service personnel. All of these normally have had specialized vocational training at the secondary level.

Lastly, the category of workers at the intermediate and elementary levels includes those occupying jobs normally requiring secondary-level education or less. They are broken down into three main sub-groups, namely general office personnel, general sales and service personnel, and production workers.

Finally, it should be pointed out that among the highly skilled workers, CETECH has decided to single out (so as to track them more closely) the professionals and the technicians in the natural and applied sciences (computer science, engineering, mathematics, chemistry, biology, physics, etc.), because of the strategic role they play in technology and the sciences and because of the particular concerns they raise in the various communities involved.

The survey sample

The survey on recruitment and hiring in Quebec involves a sample base of 6,773 establishments with five or more employees, stratified according to the manufacturing and service sectors specified above and broken down into large and small establishments. The sampling plan was designed and carried out by the Institut de la statistique du Québec, drawing on the database of the Statistics Canada Business Register. In order to improve employment estimates, the sample is stratified on the basis of large and small establishments. Breakdown by size is done by calculating the total number of employees by sector and then determining the *n* largest establishments that account for 50% of total employment. The remaining establishments are classified as small establishments and placed in that stratum. Once the large establishments have been identified, they are divided into two categories, a census is taken of one, the other is sampled. This method consists essentially of dividing the establishments into census and sampling strata so as to minimize sample size for a given level of accuracy. Finally, note that the sample is a rotating one with a planned renewal based on replacing 20% of the establishments each year.

In practice, because of their limited numbers, a census was taken of large and small establishments in three high technology manufacturing sectors. In the high technology services, a census was also taken of the large establishments, while a simple random sampling without replacement was used in the case of small establishments. Finally, for the three large categories—"Manufacturing," "Service," and "Construction"—we resorted to a simple random sampling for the medium-sized and small establishments, mainly because of the large population size of the three groups. A census was taken of all of the large establishments in these sectors. In 2005, the main service sector and manufacturing sector was broken down to a more detailed level. Thus, it is possible to obtain information for the service activity sectors down to the two-number level used by NAICS. As for the manufacturing sector, it has been divided into four large categories, namely, 1) labour-intensive manufacturing establishments (food and beverage, textile and clothing as well as furniture and other areas of manufacturing); 2) primary manufacturing (wood, paper, petroleum and coal products; non-metallic mineral products, and primary metal manufacturing); 3) the category described as secondary manufacturing (chemical products, rubber and plastic, and fabricated metal products); and 4) the capital-intensive manufacturing establishments (printing, machinery manufacturing, electrical products, electronic and computer products, as well as transportation equipment). In addition, starting in 2005, information is also available by establishment size. Results are now available for establishments having from 5 to 19 employees, those having from 20 to 99 employees, and those having a total of 100 or more.

To sum up, of a total population of almost 80,000 establishments with five or more employees, a sample of 6,773 was selected and broken down as follows: 1,079 in manufacturing, of which 431 were in high technology manufacturing; 4,766 in services, of which 1,477 were in high technology services and professional services and 928 in construction.

Since 2002, the survey has a regional dimension. Estimates are now produced for the following three regional groupings:

The Montreal region: Montreal, Laval, Lanaudière, Laurentides (the Laurentians), and Montérégie
The resource regions: Bas-Saint-Laurent, Saguenay–Lac-Saint-Jean, Mauricie, Abitibi-Témiscamingue, Côte-Nord, Nord-du-Québec, Gaspésie–Îles-de-la-Madeleine
The central regions: Estrie (the Eastern Townships), Centre-du-Québec, Chaudière-Appalaches, Capitale-Nationale, Outaouais.

The questionnaire

The questionnaire collects the following information from establishment representatives:

- employment at year-end,
- hiring new employees from January 1 to December 31, 2005,
- employee departures,
- current job vacancies,
- job vacancies of four or more months,
- reasons for job vacancies of four or more months,
- measures taken to deal with the difficulties of filling job vacancies,
- employee training.

This information was collected for the sectors discussed above, as well as for 11 occupational groups divided into three categories according to the following breakdown:

- Highly skilled workers: managers, professionals (NAS and others), and college-level technicians (NAS and others),
- Below-college-level technicians: secretaries, trades, and supervisors,
- Intermediate and elementary workers: general office personnel, general sales and service personnel, and workers in production or in related areas.

The preceding variables make up the stable part of the survey. In addition, each year, (according to needs) we plan to add one or two questions on one aspect or on a particular problem of the labour market. In 2004, this aspect involved virtual learning or e-learning as a way of offering training to employees. The year 2005 provided the occasion for improving our knowledge with regard to human resources management.

Data collection

Data collection was carried out by the specialized services of the Institut de la statistique du Québec and took place from March 21 to June 2, 2006. After first sending the questionnaire by mail, interviews were conducted by a team of well-trained interviewers using a CATI type software (computer assisted telephone interviewing). Interviewers were equipped with additional documentation duplicating in all points the appendix attached to the questionnaires but in greater detail so as to enable interviewers to better assist the respondents. Telephone interviews were conducted with 4,788 establishments out of a

total of 5,640 eligible establishments, which represents a very satisfying response rate of 84.9%. And it should be specified that among eligible establishments (i.e., those that were actually in operation and that had at least five employees), cases of refusing to respond were the exception: the cooperation rate was 98.1%.

Quality of estimates

The reliability and accuracy of results are a constant concern of any survey wishing to achieve methodological rigour. With regard to errors, it is customary in statistical matters to distinguish between sampling errors and non-sampling errors. Among the latter, one must place those errors that were due to a low rate of response, questions difficult to understand, errors of interpretation by the interviewer, data capture errors, and wrong answers, whether intentional or not. In order to reduce these sources of error as much as possible, the whole process of completing the EREQ has received the most careful attention: question formulation, definitions of the occupational groups, in-depth training of the interviewers on the objectives of the survey, questionnaire content, the definition of the variables chosen, selection of respondents, practical understanding of the occupational categories, most frequently asked questions, etc. In addition, a continuous and meticulous supervision took place during the whole data collection operation.

As for sampling errors, these depend on the very nature of the statistical instrument used to determine the characteristics of a population based on measures constructed on a sample of that population. Such errors are unavoidable. It is a matter of controlling them within the framework of the sampling plan definition and of determining sample size, and of quantifying them *a posteriori*, in such a way as to give the analyst and the reader some indication of the accuracy and the quality of the estimates that are thus produced. It is possible to calculate the error type associated with a given estimate. When expressed as a percentage of the estimate itself, the error type is called the coefficient of variation. This measure facilitates interpretation and allows one to tell the accuracy of an estimate at a glance. The higher the coefficient of variation (CV), the less accurate the estimate, and vice-versa.

EREQ results are associated with a CV value that ranges from A to E. An "A" corresponds to a CV of less than or equal to 5%; this is considered to be excellent and means that the actual value for the population can vary by more or less 5% of the estimate provided by the results; a "B" corresponds to a CV of 5% to 10% and is considered to be very good; a "C" corresponds to a CV of 10% to 15% and is considered to be good. A "D" (CV of 15% to 25%) is acceptable, while an "E" (CV of greater than 25%) is poor.

With regard to the EREQ, results with ratings of A, B, C or D are published as they are without special comment. Results with an E rating are marked by an asterisk (*) signifying a low degree of reliability, thereby suggesting that the reader be prudent in their interpretation.

In conclusion, as a reminder to those who would like more details and further specification of the different aspects of EREQ methodology, a complete report on methodology (French only) is available on the CETECH Web site under the link to the survey. It can thus be consulted at leisure and at any time.

Appendix II - Questionnaire

Institut de la statistique Québec

200, chemin Sainte-Foy
Québec (Québec)
G1R 5T4

SURVEY OF RECRUITMENT AND EMPLOYMENT IN QUÉBEC

YEAR 2005

Mailing Address	Establishment surveyed

Confidentiality

This information is required under the provisions of the Act respecting the Institut de la statistique du Québec (R.S.Q., c. 1-13.011), according to which every request for information by the Institut for which a reply is obligatory must be complied with and the information must be transmitted within the time and in the form prescribed by the Institut. Moreover, the Institut de la statistique du Québec is bound to protect the confidentiality of all data obtained in this manner.

Instructions

Do not return the questionnaire by mail.
Please keep it for your files.

☞ An interviewer from the Institut de la statistique du Québec will contact you sometime between March 20 and May 19, 2006 to collect the information by phone[1].

☞ The purpose of this survey is to collect data from the establishments rather than the firms. Therefore, as you fill in the questionnaire please consider the individual situation of the establishment to which the survey is addressed. If the establishment happens to be the company head office, please provide answers for the personnel working at the head office only.

☞ **For any additional information and before completing the questionnaire for an establishment with fewer than 5 employees,** please contact the Institut de la statistique du Québec by calling (418) 691-2404 or our toll free number if you are outside the Greater Québec Area: 1 800 561-0213.

1. To ensure the quality of the survey, the telephone interview may be monitored by a supervisor. However, the Institut de la statistique du Québec does not tape any of these interviews. Futhermore, all members of the Institute's personnel have taken an oath of secrecy and are bound by the obligation of discretion.

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2006-01

1 Please indicate the number of employees working in your establishment as at December 31, 2005 in each of the occupational categories indicated in the following table.

Notes :

1. The term " employee " applies to any person for whom the establishment or the enterprise issues Relevé 1 forms from the Ministère du Revenu; an employee may have permanent, temporary or casual status, and may work either full time or part time.

2. Please read the appendix " Definition of occupational categories " before completing the questionnaire.

3. Note that the breakdown of employees by occupational category must be based on the characteristics of the job or the requirements of the position, and not on the personal qualifications of the employees occupying the position. Therefore, the training that would be required if recruitment were necessary for this job must be considered.

4. Include employees who were laid off after **December 15, 2005** and who are scheduled to be rehired before **January 15, 2006**.

Instructions for occupational categories with no employees as at December 31, 2005:

1. For the categories that did not exist in your establishment in 2005, please check here : ——▼
2. If you had no employees in an occupational category as at December 31, 2005 but that the category existed in your establishment during the year 2005, please enter " 0 " in " Number of employees " : ——▼

	PROFESSIONAL CATEGORY	NUMBER OF EMPLOYEES AS AT DECEMBER 31, 2005	NON-EXISTENT CATEGORY IN 2005 (✔)
1	Management employees		
2a	Natural and applied science professionals		
2b	Other professionals		
3a	Natural and applied science technicians		
3b	Other technicians		
4	Secretaries		
5	Trades		
6	Supervisors and foremen (sales or production)		
7	General office employees		
8	General sales and service personnel		
9	Production workers or related fields (transportation, installation, maintenance)		
	TOTAL NUMBER OF EMPLOYEES		

2 1) Between January 1 and December 31, 2005, did you hire new staff?

Note : You must exclude the following hiring:

- *the rehiring in 2005 of employees laid off in 2005 (for example, an employee who was laid off in January 2005 and then rehired in September 2005).*
- *hiring for student jobs, i.e. jobs set aside "exclusively" for students (for example, summer jobs or on-the-job training sessions).*

Yes ☐

No ☐ ➨ *Go to question 3*

2) Please indicate the number of persons hired in each of the following occupational categories :

	PROFESSIONAL CATEGORY	NUMBER OF PERSONS HIRED
1	Management employees	
2a	Natural and applied science professionals	
2b	Other professionals	
3a	Natural and applied science technicians	
3b	Other technicians	
4	Secretaries	
5	Trades	
6	Supervisors and foremen (sales or production)	
7	General office employees	
8	General sales and service personnel	
9	Production workers or related fields (transportation, installation, maintenance)	
	TOTAL NUMBER OF PERSONS HIRED	

3 1) Between January 1 and December 31, 2005, did any employees leave your establishment (voluntarily or not, and for any reason)?

Note : You must exclude the following departures:

- *departures of employees laid off in 2005 and then rehired in 2005 (for example, an employee who was laid off in January 2005 and then rehired in September 2005).*
- *departures of students hired for jobs set aside exclusively for them (for example, summer jobs or on-the-job training sessions).*

Yes ☐

No ☐ ➡ *Go to question 4*

2) Please distribute the total number of departures by professional category :

	PROFESSIONAL CATEGORY	NUMBER OF DEPARTURES
1	Management employees	
2a	Natural and applied science professionals	
2b	Other professionals	
3a	Natural and applied science technicians	
3b	Other technicians	
4	Secretaries	
5	Trades	
6	Supervisors and foremen (sales or production)	
7	General office employees	
8	General sales and service personnel	
9	Production workers or related fields (transportation, installation, maintenance)	
	TOTAL NUMBER OF DEPARTURES	

4 1) **Are there currently vacant positions in your establishment for which recruitment has been conducted?**

Note : These are positions open to people outside the establishment or positions that would be filled within a reasonable period of time if qualified candidates applied.

Yes ☐

No ☐ ➨ *Go to question 7*

2) **Indicate the total number of vacant positions in each of the following professional categories:**

	PROFESSIONAL CATEGORY	NUMBER OF VACANT POSITIONS
1	Management employees	
2a	Natural and applied science professionals	
2b	Other professionals	
3a	Natural and applied science technicians	
3b	Other technicians	
4	Secretaries	
5	Trades	
6	Supervisors and foremen (sales or production)	
7	General office employees	
8	General sales and service personnel	
9	Production workers or related fields (transportation, installation, maintenance)	
	TOTAL NUMBER OF VACANT POSITIONS	

5 **1) Among the vacant positions listed, for which recruitment has been conducted, are there any that have been vacant for at least four months?**

Yes ☐

No ☐ ➡ *Go to question 7*

2) How many vacant positions are there in each of the following professional categories and what is the main reason for which these positions remained vacant during all this time?

a) Too few candidates submitted their application
b) Lack of candidates with the necessary training or eduction
c) Lack of candidates with the necessary experience
d) Salary expectations are too high
e) Incompatible schedule
f) Others

PROFESSIONAL CATEGORY	NUMBER OF VACANT POSITIONS	REASONS FOR THESE VACANCIES
1) Management employees	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
2a) Natural and applied science professionals	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
2b) Other professionals	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
3a) Natural and applied science technicians	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
3b) Other technicians	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
4) Secretaries	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
5) Trades	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
6) Supervisors and foremen (sales or production)	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
7) General office employees	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
8) General sales and service personnel	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
9) Production workers or related fields (transportation, installation, maintenance)	_____	a) ☐ b) ☐ c) ☐ d) ☐ e) ☐ f) ☐
Total number of vacant positions	_____	

6 In the last year, what measures did your establishment have to take to cope with problems arising from the positions that remained vacant for at least four months? (several answers possible)

- Resorting to overtime ❐
- Resorting to subcontractors ❐
- Extended delivery period ❐
- Contract refused (one or several) ❐
- In-house training ❐
- Resorting to employees from outside Québec ❐
- More flexible employment criteria or requirements ❐
- Others ❐
- No measures taken ❐

7 1) **Between January 1 and December 31, 2005, did you finance or offer training activities for your employees?**

Note : A training activity means any structured activity aimed at upgrading the skills of employees. It includes any training recognized by the establishment, whether it is dispensed by an internal or external resource. The activity may be dispensed on the premises or outside your establishment. However, it excludes any "apprenticeship learning" or exchange of skills between peers, as well as initial training given a new employee.

Yes ☐

No ☐ ➨ *Go to question 8*

2) **Please indicate the number of employees who participated in a training activity in each of the following occupational categories:**

	PROFESSIONAL CATEGORY	NUMBER OF EMPLOYEES
1	Management employees	
2a	Natural and applied science professionals	
2b	Other professionals	
3a	Natural and applied science technicians	
3b	Other technicians	
4	Secretaries	
5	Trades	
6	Supervisors and foremen (sales or production)	
7	General office employees	
8	General sales and service personnel	
9	Production workers or related fields (Transportation, installation, maintenance)	
	TOTAL NUMBER OF EMPLOYEES	

8 **Is there a personnel department or a human resources division (HRD) in your establishment at the address indicated on the questionnaire?**

Note : This is a division in which the main duties of the employees are related to human resources.

Yes, there is an HRD at that address ❐ ➨ *Go to question 12*
No, the HRD is at another address ❐
No, we have no HRD ❐

9 **Is there a person in your establishment who handles human resources management?**

Yes ❐
No ❐ ➨ *End of questionnaire*

10 **Is that person the owner, an employee or a resource outside your establishment?**

Owner ❐
Employee ❐
Outside resource ❐ ➨ *Go to question 12*

11 **What percentage of that person's time is devoted to personnel or human resource management?**

Less than 50% of the person's time ❐
More than 50% of the person's time ❐

12 Complete the following table:

1) By entering a check (✔) if your establishment has set up measures related to the following aspects :

2) Then indicate with a check (✔) whether your establishment believes these aspects require "little or no improvement" or "some or much improvement" :

	Measures set up	Little or no improvement	Some or much improvement	Does not know
Improve personnel training				
Improve hiring and recruitment procedures				
Set up strategies to prevent staff turnover				
Encourage staff motivation and recognition				
Plan the next generation of personnel				
Plan the next entrepreneurial generation (i.e. the succession of the enterprise's executive officer)				
Improve the atmosphere at work				
Adapt the management of human resources to the cultural diversity of the staff employed (see note at the bottom of the table)				
Promote reconciliation of work and family life				

Note : These are management measures for staff already employed, not measures aimed at job access for new employees.

13 Do you promote coaching and mentoring, i.e. the pairing of a 'senior' employee with a 'junior' employee on certain projects?

Yes ☐

No ☐

THANK YOU FOR YOUR COLLABORATION

Definition of professional categories

The following list of occupations corresponds to the various professional categories mentioned in the questionnaire. Please note that the distribution of employees in professional categories must be based on job characteristics or requirements rather than on personal qualifications.

You will therefore find descriptions and examples for:

1) Management employees
2a) Natural and applied science professionals
2b) Other professionals
3a) Natural and applied science technicians
3b) Other technicians
4) Secretaries
5) Trades
6) Supervisors and foremen (sales or production)
7) General office employees
8) General sales and service personnel
9) Production workers or related fields (transportation, installation, maintenance)

These definitions and groupings closely emulate the *National Occupational Classification* (NOC).

1) Management employees

This category is composed of personnel whose primary function is to manage a group of employees, to plan, organize and coordinate their work and to supervise its execution. The individuals who hold these jobs are in a position of hierarchical authority in their work environment. They can either be top or middle-level executives, managers or others.

2) Professionals

The category of professionals is made up of personnel whose main activities are related to the design, production, analysis and development of standards, procedures, systems and policies concerning the firm's activities. The performance of the duties assigned to this type of employment generally requires a university degree or the equivalent. Two groups have been identified for the purpose of this survey:

2a) Natural and applied science professionals

The professions belonging to this group usually require a university degree in a related scientific field. They include:

- engeneers and other professionals in civil, mechanical, electrical, computer and chemical engineering;
- computer specialists such as computer systems analysts, programmers, consultants, database administrators, Web designers;
- other professionals such as chemists, biologists, architects, surveyors, physicists, mathematicians, statisticians, agrologists, etc.

2b) Other professionals

The occupations in this group include all other professionals. Here are a few examples according to the various fields of activities.

Administration
- Financial analyst
- Auditor
- Accountant
- Human resources specialist
- All other administrative professionals

Health
- Chiropractor
- Nutritionist
- Dentist
- Optometrist
- Dietician
- Pharmacist
- Nurse
- Veterinarian
- Physician
- Therapist
- All other health care professionals

Law
- Lawyer
- Judge
- Notary
- All other law professionals

Education
- Guidance counselor in primary and secondary schools
- Teacher
- Instructor in vocational training schools
- High school, college, university professor and assistant professor
- All other education professionals

Social sciences
- Policy and program officer
- Psychologist
- Researcher
- Counselors
- Social worker
- Religious vocation
- All other social science professionals

Art, culture and communications
- Archivist
- Editor
- Librarian
- Public relations officer
- Journalist
- All other art, culture and communications professionals

3) Technicians

The category of technicians includes personnel whose main activities concern the design and application of standards, procedures, programs and systems. The performance of the duties assigned to this type of employment generally requires a college diploma or the equivalent. For the purpose of this survey technicians are divided in two groups.

3a) Natural and applied science technicians

Technicians belonging to this group work in the same fields as the natural and applied science professionals. Therefore, they perform technical duties in these scientific fields. They normally hold a college diploma. They include:

- Architectural technologists and technicians;
- Biological technologists and technicians;
- Applied chemical technologists and technicians;
- Civil, mechanical, and industrial engineering technologists and technicians;
- Electronic, electrical and computer engineering technologists and technicians;
- Geological and mineral technologists and technicians;
- Physical sciences technologists and technicians.

3b) Other technicians

Technicians belonging to this group include all other technicians who generally hold a college diploma and who work in other fields such as administration, health, social services, education, art, culture, leisure and communications. The main examples of this group are:

Administrative and clerical staff (excluding secretaries)
- Clerical work supervisor
- Executive assistant
- Personnel officer
- Purchasing officer
- Bookkeeper
- Appraiser
- Specialized sales representatives or technical sales specialists.

Health
- Medical laboratory technician
- Animal health technologist
- All other college level technical personnel in the health sector

Legal, social services and education
- Employment counselor
- Paralegal
- Community and social service worker
- All other college level technical personnel in the legal, social services and education sectors

Art, culture and communication
- Graphic designer
- Photographer
- Library technician
- Audio and video recording technician
- Graphics technician
- Other technical personnel in these sectors

4) Secretaries

This category groups together the secretarial staff. Secretaries perform various administrative duties and provide support and assistance to managers and professionals to whom they are personally attached. The main positions are:

- Secretary
- Legal secretary
- Medical secretary

Note : Receptionists, telephone operators and clerks do not belong to the «secretaries» category. They are included in the «unskilled clerical staff» category.

5) Trades

This category includes the skilled transportation,machinery and service trades.

Trades, transportation and machinery

- Carpenter
- Electrician
- Machinist
- Mechanic
- Assembler
- Plumber
- Welder
- Pipe fitter

Trades in the services field

- Butcher
- Fireman
- Baker
- Hair stylist
- Chef and cook

6) Supervisors and foremen (sales or production)

This category includes sales supervisors and foremen and those in the manufacturing and processing industries. They are often grouped with foremen. It also includes buyers, real estate and insurance personnel. The main titles in this category are:

In production

- Processing industry supervisor
- Manufacturing and assembly supervisor
- Specialized control station operator

In services

- Sales and service supervisor
- Insurance agent and broker
- Real estate agent
- Buyer

7) General office employees

This category groups together clerical workers without special education or training. They perform general office work, type documents, operate office machines, answer telephone calls and file documents. They are often called clerks. The main job titles are:

- Office clerk
- Shipping clerk
- Data entry clerk
- Sales clerk
- Accounting clerk
- Receptionist
- Telephone operator
- Survey interviewer
- Mail clerk

8) General sales and service personnel

This category consists of general sales and service employees working in stores and boutiques, travel agencies, transportation companies, accommodation, food and recreational services establishments, as well as establishments providing security, child care and home support services. The main job titles are:

- Sales representative
- Sales employee
- Travel agent
- Daycare and family maintenance personnel
- Bartender
- Waiter
- Cashier
- Kitchen helper
- Household worker
- Babysitter
- Security guard
- Janitor
- Housekeeping clerc

9) Production worker or related fields (transportation, installation, maintenance)

This category groups together production workers in the manufacturing and processing industries and in public utility services. It also includes transportation, installation and maintenance workers. The main job titles are:

- Machine operator
- Machinist
- Assembler
- Truck driver and driver of other vehicles
- Heavy equipment operator
- Repair and maintenance personnel
- Material handler
- Unskilled worker

CETECH
Centre d'étude sur l'emploi
et la technologie

The Centre d'étude sur l'emploi et la technologie (CETECH), which is part of Emploi-Québec, is dedicated to the improvement of knowledge about the labour market of highly skilled occupations and high technology industries. CETECH is also concerned with relations of all types beetween employment and technology.

CETECH produces and transmits analytical work, articles, studies and advices on subjects related to its fields of expertise. These aim to inform and to support decision making (career choices, human ressources management, public policy planning...), while encouraging a better understanding of the role played by human capital and technology in raising living standards.

Survey on recruitment and employment in Quebec, Fall 2006

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Subscription and change-of address
CETECH
276, Saint-Jacques, 6th Floor
Montréal (Québec) H2Y 1N3
Phone: (514) 864-8234
Fax: (514) 864-7870
E-mail: cetech@mess.gouv.qc.ca

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EREQ team
EREQ team: Guylaine Baril, Malika Hamzaoui and Frédéric Savard
Coordination: Frédéric Savard
Analysis and writing: Frédéric Savard
Technical support and layout: Stéphane Leroux
Secretariat: Francine Lessard

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